

Property Tax Education Coalition, Inc.

RPA Course Material Review

STUDENT OUTLINE

March 2024

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Property Tax Education Coalition, Inc.

P. O. Box 9822

College Station, Texas 77842

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NOTES:

Students

The following course outline is designed to give students preparing for the state level exams a condensed review of the relevant course material.

This course is not approved for continuing education credit. The material is presented in such a manner that it encompasses PTEC material relevant to both exams: RPA Class III and IV.

Students should already be familiar with all of the material. *Remember, this is only a review. The classroom experience is designed to engage students and **reinforce** what they already know-NOT TEACH THE MATERIAL.*

This material, provided by the Property Tax Education Coalition, is intended to be a refresher for the concepts covered in the certification courses for the RPA license.

PTEC does not have any specific knowledge as to individual questions on the certification examinations.

Neither PTEC nor the workshop provider is responsible for students passing the level exam.

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Suggested Schedule

DAY ONE – AM:

Section One: PSI Exam Process

Section Two: TDLR Rules

Section Three: Ethics

Section Four: USPAP

Section Five: PTEC Course 101 – Property Tax Administration

DAY ONE – PM:

Section Five: PTEC Course 101 – Property Tax Administration

Section Six: PTEC Course 102 – Property Tax Appraisal

DAY TWO – AM:

Section Six: PTEC Course 102 – Property Tax Appraisal

Section Seven: PTEC Course 203 – Cost Approach

DAY TWO - PM:

Section Eight: PTEC Course 203 – Sales Comparison Approach

DAY THREE – AM:

Section Nine: PTEC Course 3 – The Income Approach to Value

DAY THREE – PM:

Section Ten: PTEC Course 4 – Appraisal of Personal Property

DAY FOUR – AM:

Section Eleven: PTEC Course 5 – Mass Appraisal Concepts

Section Twelve: PTEC Course 7 – Property Tax Law

DAY FOUR – PM:

RPA PRACTICE QUESTIONS

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Section One: The Exam Process (PSI Candidate Information Bulletin)

Review of CIB and Relevant Exam Topics

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PSI Services LLC
3210 E Tropicana
Las Vegas, NV 89121
<https://www.psiexams.com/tdlr>
Email: TDLRsupport@psionline.com

TEXAS DEPARTMENT OF LICENSING AND REGULATION

PROPERTY TAX PROFESSIONALS CANDIDATE INFORMATION BULLETIN



The waiver on expiration dates for DL and ID cards ends on April 14, 2021. DPS encourages candidates who need to renew to schedule an appointment online at their local driver's license office.

EFFECTIVE MARCH 1, 2024, the examination items will be referenced to the 2023 Texas Property Tax Code and the 2024 edition of the Uniform Standards of Professional Appraisal Practice (USPAP). Please see Page 12 for changes to the Class IV, RTA addition of a new mass appraisal reference book.

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Updated 12/13/2023

NOTES:

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NOTES:

EXAMINATION SCHEDULING PROCEDURES

The Texas Department of Licensing & Regulation (TDLR) has contracted with PSI Services LLC (PSI) to deliver its examinations.

Upon TDLR approval of eligibility, you will receive an email confirmation with instructions for scheduling an appointment to take the examination. You are allowed to test unlimited through your eligibility period.

Beginning June 1, 2022, PSI will begin to offer these examinations online. This new online testing platform utilizes an environment that has a remote proctor using secure technology to observe the test taker using their own desktop, webcam video, and audio to confirm their identity. This allows the candidate to complete the required licensing examination in a controlled environment.

TDLR & PSI have been working diligently to provide a viable alternative method to in-person testing. In addition to the online examination option, PSI will continue to offer the traditional written examination at their 22 exam sites across Texas.

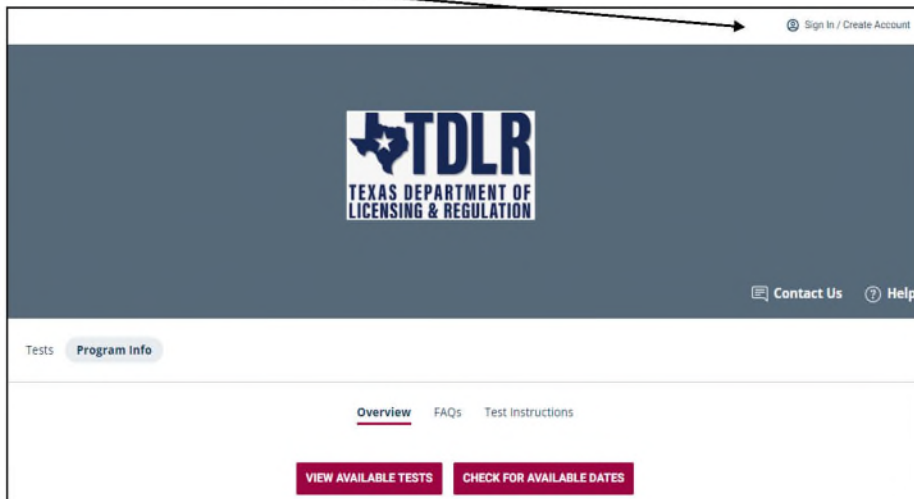
By providing the option to take your written examination at one of our 22 exam sites or utilizing the new online examination platform, we are confident that it will provide some relief of the limited availability, making it faster and more convenient to meet our candidates needs to obtain a license from TDLR.

[Click here for a demo of testing from your own personal laptop or computer.](#)

ON-LINE SCHEDULING VIA WEBSITE

For the fastest and most convenient examination scheduling process, register for your examinations online by accessing PSI's registration Website: <https://test-takers.psixams.com/tdlr>.

1. Select **Sign In/Create Account**.



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NOTES:

2. You will be prompted to CREATE AN ACCOUNT with PSI.

The first and last name must match exactly with your current, valid, government-issued ID.

Your password must contain:

- At least one capital letter A-Z
- At least one lower case letter a-z
- At least one number 0-9
- At least one special character !@#%&'/*&U*
- At least 8 and up to 32 characters

3. You will now select if you want to take the examination at a PSI test center (Site Proctored) or from your own laptop or computer (Atlas Remote Proctored).

Modality

Site Proctored Atlas Remote Proctored

**IF YOU SELECTED TO TAKE YOUR WRITTEN EXAMINATION AT A TEST CENTER
FOLLOW THE STEPS BELOW**

Enter the "City or Postal Code" and select SEARCH. You will then select the date and time you would like to test.

You are now ready to pay.

Payment

Credit Card

Credit Card Number:

Expiration: MM / YY

Name on Card:

CVV:

Total (USD):



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NOTES:

Once payment has been made you will receive a message confirming the test center, booked date, and booked time.

Booking Confirmed!! [Print Confirmation](#)

Email Address: asingla81@psionline.com Home Phone: 111224444 Office Phone: 2221112345

you

IF YOU SELECTED TO TAKE YOUR WRITTEN EXAMINATION ONLINE USING YOUR OWN PERSONAL LAPTOP OR COMPUTER, FOLLOW THE STEPS BELOW

Enter your time zone and select **SEARCH**. You will then select the date and time you would like to test.

Country * United States Time Zone * (UTC-06:00) Central Time (America/Chicago) **SELECT**

March 2023

SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1

Available Times: Saturday March 25

12:30 AM	1:00 AM	1:30 AM	2:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM
3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM	6:00 PM	6:30 PM	7:00 PM			

You are now ready to pay.

Payment

Credit Card

Credit Card Number: Expiration: MM / YY

Name on Card: CVV:

Total (USD):

Your booking will now display in your account. You will be able to **LAUNCH** your test within 30 minutes of your booked test time.

IMPORTANT: BE SURE TO CHECK THE COMPATIBILITY OF YOUR COMPUTER to include Audio/Video Check, Webcam Check and System Check. Prior to testing, [CLICK HERE](#).

Bookings:

1 item 22 minutes until test

Wednesday, October 10, 2024 [Add to Calendar](#)

3:30 PM Pacific Time

[Print Receipt](#)

[More Information](#)

Before taking your remote online proctored exam, please check system compatibility - click [HERE](#)

Online Proctored (Live). Click the Launch button at your scheduled test time. **LAUNCH**

By not starting your test within 15 minutes after your booked time, you forfeit your test fee or test eligibility. Fees and test eligibilities are non-refundable. If you have any questions regarding your compatibility check, or if you experience issues launching your test, you may contact PSI's technical support team at (844) 267-1017.



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NOTES:

TELEPHONE SCHEDULING

For telephone registration, you will need a valid credit card (Visa, MasterCard, American Express or Discover). PSI registrars are available at (833) 333-4741, Monday through Friday between 6:30 am and 9:00 pm, and Saturday-Sunday between 8:00 am and 4:30 pm, Central Time, to receive your payment and schedule your appointment for the examination.

STANDARD MAIL REGISTRATION

If you prefer, you may mail the Examination Registration Form (found at the end of this Candidate Information Bulletin). Mail the completed Examination Registration Form to PSI with the appropriate examination fee. Payment of fees may be made by credit card (Visa, MasterCard, American Express or Discover), money order, company check or cashier's check. Money order or check must be made payable to PSI, with your student permit number noted on it to ensure that your fees are properly assigned. **CASH AND PERSONAL CHECKS ARE NOT ACCEPTED.** Please allow 7 business days to process before contacting PSI to schedule.

CANCEL OR RESCHEDULE AN EXAMINATION APPOINTMENT

You may cancel and reschedule an examination appointment without forfeiting your fee if your *cancellation notice is received 2 days before the scheduled examination date*. For example, for a Monday appointment, the cancellation notice would need to be received on the previous Saturday. You may call PSI at (833) 333-4741 or use the PSI Website.

Note: A voicemail or email message is not an acceptable form of cancellation. Please use the PSI Website or call PSI to speak directly to a Customer Service Representative.

MISSED APPOINTMENT OR LATE CANCELLATION

Your registration will be invalid, you will not be able to take the examination as scheduled, and you will forfeit your examination fee, if you:

- Do not reschedule your appointment at least 2 days before the scheduled examination date.
- Do not appear for your examination appointment.
- Arrive after the examination start time.
- Do not present proper identification when you arrive for the examination.

EXAMINATION ACCOMMODATIONS

All PSI examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and exam accommodations will be made in meeting a candidate's needs. A candidate with a disability or a candidate who would otherwise have difficulty taking the examination should request for alternative arrangements by [Clicking Here](#) or fill out the form at the end of this Candidate Information Bulletin. This form also includes out-of-state testing requests.

EXAMINATION SITE CLOSING FOR AN EMERGENCY

In the event that severe weather or another emergency forces the closure of an examination site on a scheduled examination date, your examination will be rescheduled. PSI personnel will attempt to contact you in this situation. However, you may check the status of your examination schedule by calling (833) 333-4741. Every effort will be made to reschedule your examination at a convenient time as soon as possible.

REPORTING TO THE EXAMINATION SITE

On the day of the examination, you should arrive 30 minutes prior to your scheduled appointment time. This allows time for sign-in and identification verification. NO conversing or any other form of communication among candidates is permitted once you enter the examination site.

If you arrive late, you will NOT be admitted to the examination site and you will forfeit your examination registration fee.



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NOTES:

REQUIRED IDENTIFICATION AT EXAMINATION SITE

You must provide 1 form of identification. The identification must be a VALID form of government-issued identification for example, driver's license*, state ID, or passport, which bears your printed name, photograph, signature or fingerprint, date of birth, and expiration date. Identification provided must match all information provided by TDLR to PSI upon eligibility. If your ID does not contain the required information, you may be asked to provide other forms of valid identification to confirm your identity. A digital copy of your identification documentation will be taken upon check in and stored with your personal data.

*An expired driver's license will be accepted only if accompanied by a VALID Texas Department of Public Safety temporary permit. Likewise, the temporary permits must be accompanied by the expired DPS driver's license.

If you cannot provide the required identification, you must call (833) 333-4741 at least 3 weeks prior to your scheduled appointment to arrange a way to meet this security requirement. **Failure to provide the required identification at the time of the examination without notifying PSI is considered a missed appointment, and you will not be able to take the examination and will forfeit your examination fee.**

SECURITY PROCEDURES

The following examination protocols apply during any examination. PSI may pause or terminate an examination at any time. Failure to follow the examination protocol, may result in the disqualification of examination results, prohibition from taking future examinations, and may lead to legal action.

Prohibited Items:

- Reference materials of any kind.
- Electronic devices of any type, including but not limited to; cellular phones, cameras, computers of any type (e.g., laptops, tablets, iPads), earbuds, electronic games, electronic watches, handheld calculators, headsets, mobile devices, music players (e.g., iPods), pagers, radios, recording devices (audio or video), smart watches, televisions, etc.).
- Hats or headgear not worn for religious reasons or as religious apparel, including hats, baseball caps, or visors.
- Bulky or loose clothing or coats including but not limited to, open sweaters, cardigans, shawls, scarves, vests, jackets and coats.
 - In the event you are asked to remove bulky or loose outerwear, appropriate attire, such as a shirt or blouse should be worn underneath.
- Other personal items, including but not limited to; backpacks, briefcases, chewing gum, drinks, food, good luck items, notebooks, paper or other materials on which to write, pens, pencils or other writing devices, purses, reading material, smoking or chewing products, wallets, etc.

Prohibited Behavior:

- Giving or receiving assistance on an examination.
- Copying or communicating examination content.
- Using outside references or resources during an exam, examples:
 - Browsing other local resources.
 - Browsing the internet.
 - Attempting to use a computer or computer program not provided or approved by PSI.
 - Attempting to use a telephone or mobile device.
 - Using notepad on the computer.
 - Using an application on the computer not provided by PSI.
- Engaging in disruptive behavior during check-in or during an exam, examples:
 - Acting in an inappropriate manner.
 - Using abusive language.
 - Speaking aloud.
 - Causing noise unrelated to keyboard typing.
- Engaging in prohibited behavior during check-in or during an exam, examples:
 - Reading questions out loud.
 - Leaving the room without proctor approval.
 - Using instant messaging, or other electronic communication.
 - Capturing a picture or video of exam items.
 - Attempting to use telephone or mobile device.
 - Obstructing the proctor's view (camera or in person).
 - Having inappropriate materials on desktop (explicit).
 - Changing spaces during the exam without proctor approval.
 - Not focusing eyes on the screen.

During the check in process, all candidates will be asked if they possess any prohibited items. Candidates may also be asked to empty their pockets and turn them out for the proctor to ensure they are empty. The proctor may also ask candidates to lift up the ends of their sleeves and the bottoms of their pant legs to ensure that notes or recording devices are not being hidden there.



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NOTES:

Proctors will also carefully inspect eyeglass frames, tie tacks, or any other apparel that could be used to harbor a recording device. Proctors will ask to inspect any such items in candidates' pockets.

No prohibited items are allowed within the candidate's reach or line of sight. If prohibited items are found during check-in, candidates shall put them in the provided secure storage or return these items to their vehicle for test center exams. PSI will not be responsible for the security of any personal belongings or prohibited items.

Any candidate seen giving or receiving assistance on an examination, found with prohibited items, or displaying prohibited behavior or violating any security regulations will have his or her examination terminated, and be asked to surrender all examination materials. All such instances will be reported to the examination sponsor.

Additional protocols for testing at a [testing center](#), include but not limited to:

- The candidate will be issued scratch paper and pencil. You must return both at check-out.
- Person(s) accompanying an examination candidate may not wait in the examination center, inside the building or on the building's property. This applies to guests of any nature, including drivers, children, friends, family, colleagues, or instructors.
- Once candidates have been seated and the examination begins, they may leave the examination room only to use the restroom, and only after obtaining permission from the proctor. Candidates will not receive extra time to complete the examination.

Additional protocols for [taking your examination on your laptop or computer](#), include but not limited to:

- The candidate will be allowed to use a piece of scratch paper and pencil. You will show the proctor the blank page at the start of the exam and the shredding of the paper at the end of the exam.
- Please be reminded that earbuds, earphones, hats, caps, hood, shades or anything that can be placed on the head or face is NOT allowed.
- Food, Drinks, or Breaks are not allowed. All personal items must be removed from the work area.
- You are not allowed to leave the station during the exam.
- Please do your best to avoid covering your mouth for the whole duration of exam. Be aware that talking/whispering/mouthing is not allowed during exam.
- You must keep both of your hands on or above the desktop during the exam.
- Also note that under no circumstances are you allowed to take a screenshot or photo of the exam or the exam results at any time during or after the session.
- Temporarily moving out of the camera's line of sight.
- Adequate lighting for the proctor to see candidate's activity.
- Internet service must be sufficient to administer the exam, see page 14 for requirements.
- Web camera must be placed for ideal viewing by the proctor.
- Candidate may not change computers during the exam.
- Candidate may not change spaces during the exam.
- Candidate must follow proctor instructions, which may include, but are not limited to:
 - Keeping hands on the desktop.
 - Keeping eyes on the computer screen.
 - Not fidgeting during the exam.
 - Keeping hands away from face.
- Please do your best to avoid covering your mouth for the whole duration of exam. Be aware that talking/whispering/mouthing is not allowed during exam.
- Breaks are NOT allowed during remote online proctored examinations. If you believe you cannot complete your examination without a break, please do not register for remote online proctored examinations.

TAKING YOUR EXAMINATION AT A PSI TEST SITE

The examination will be administered via computer. You will be using a mouse and computer keyboard.

IDENTIFICATION SCREEN

You will be directed to a semiprivate testing station to take the examination. When you are seated at the testing station, you will be prompted to confirm your name, identification number, and the examination for which you are registered.

TUTORIAL

Before you start your examination, an introductory tutorial is provided on the computer screen. The time you spend on this tutorial, up to 15 minutes, DOES NOT count as part of your examination time. Sample questions are included following the tutorial so that you may practice answering questions and reviewing your answers.



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NOTES:

TEST QUESTION SCREEN

One question appears on the screen at a time. During the examination, minutes remaining will be displayed at the top of the screen and updated as you record your answers.

IMPORTANT: After you have entered your responses, you will later be able to return to any question(s) and change your response, provided the examination time has not run out.

EXAMINATION REVIEW

PSI, in cooperation with TDLR, will be regularly evaluating the examinations being administered to ensure that the examinations accurately measure competency in the required knowledge areas. While taking the examination, examinees will have the opportunity to provide comments on any questions. Comments may be entered by clicking the Comments link on the function bar of the test question screen.

These comments will be analyzed by PSI examination development staff. Although PSI does not respond to individuals regarding these comments, all substantive comments are reviewed. If a discrepancy is found during the comment review, PSI and the department may re-evaluate candidate results and adjust them accordingly. **This is the only review of the written examination available to candidates.**

WRITTEN SCORE REPORTING

IN PERSON EXAMINATION: Your score will be displayed on screen at the end of the examination and a score report will be emailed to you. If you fail, the emailed score report will include the diagnostic report indicating your strengths and weaknesses by examination type. If you do not receive your emailed score report, you may print it from your online account.

REMOTE PROCTORED: Candidates taking a remotely proctored exam: you must select to end both the exam portion and survey portion of your test in order to receive your on-screen results and emailed score report. If you fail, the emailed score report will include the diagnostic report indicating your strengths and weaknesses by examination type. If you do not receive your emailed score report, you may print it from your online account.

WRITTEN EXAMINATION SITE LOCATIONS

Abilene

Commerce Plaza
1290 S. Willis, Suite 109
Abilene, TX 79605

The test site is on the corner of South 14th Street and Willis. The site is behind the First Financial Bank.

Amarillo

4312 Teckla, Suite 500
Amarillo, TX 79109

Exit off I-40 to Western and go South one street passed the 7th traffic light to Ridgecrest and turn right. Stay on Ridgecrest until you come to the red brick office complex on the left side corner of Ridgecrest and Teckla. 4312 is the 3rd building facing Teckla. Ste 500 is the end suite on the North side of the building.

From Canyon, take Bell St exit and go North to traffic light at 45th St and turn right. Turn left at the 2nd traffic light to Teckla.

Arlington

Centerpoint IV
2401 E. Randol Mill Road, Suite 160
Arlington, TX 76011

From TX-360 S - Take the TX-180 exit towards Division St. Merge onto N Watson Rd. Take a slight left towards S. Watson Rd. Use the middle lane to turn left onto E Randol Mill Rd. The Centerpoint IV building will be on your right.

From I-30 E - Take exit 28 toward Baird farm Road/Ballpark Way/Legends Way. Merge onto E Copeland Rd. Take a slight right onto TX-360 Frontage Rd/N Watson Rd. Turn Right onto East Randol Mill Rd. The Centerpoint IV building will be on your right.

Austin

8101 Cameron Road, Ste. 106
Austin, TX 78754

Directions - From I-35 South - Take I-35 S to exit 238A-238B for US290 towards Houston. Continue onto US290 E. Take the exit towards Airport/IUS-183/Lampasas/Lockhart. Merge onto US 290 Frontage Rd. Turn left onto Ed Bluestein Blvd. Continue onto E Anderson Ln. Turn right on Rutherford Ln. Go about ½ mile and then turn left into the parking lot of Walnut Creek Office Park. The building is on the corner of Cameron Rd and Rutherford Lane.



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NOTES:

Austin

8000 Anderson Square, Ste 301B
Austin, Texas 78757

*If Northbound on Hwy 183 -take the Peyton Gin/Ohlen Road exit and stay in the left lane so you can turn left onto Anderson Square. Turn right into 8000 Anderson Square and immediately turn left, then right at the first chance. 301B is the end building on your right.
If Southbound on Hwy 183- take the Peyton Gin/Ohlen Road exit and turn right onto Anderson Square. Turn right into 8000 Anderson Square and immediately turn left then right at the first chance. 301B is the end building on your right.*

Corpus Christi

2820 S Padre Island Dr, Suite 105
Corpus Christi, TX 78415

From So. Padre Island Drive East, exit at Kostoryz. Loop back under the Kostoryz light, travel west on the access road to the 2820 building. The examination site is located between Kostoryz and Ayers at the 2820 Building on the North site of the SPID access road.

Dallas

One Empire
1140 Empire Central Dr, Suite 610
Dallas, TX 75247

*From I-35E Southbound (Stemmons Fwy), exit Empire Central (#434A), turn right on Empire Central Dr. ONE EMPIRE BLDG is on the left.
From I-35E Northbound, exit Empire Central and turn Left on Empire Central. ONE EMPIRE is on the Left.
From Hwy 183 Eastbound (John carpenter Fwy), exit left on Regal row, turn right on Governors row, and turn left on Empire central. ONE EMPIRE is on the right.
From Hwy 183 Westbound - Exit Mockingbird LN turn right on Empire Central. ONE EMPIRE is on the right.*

Dallas/Richardson

1701 N Collins Blvd, Suite 130
Richardson, TX 75080

From US-75 North take exit 26 onto N. Central Expressway toward Collins Blvd./Campbell Rd. Turn left onto Campbell Rd. Turn left on Collins Blvd. Building is on right.

El Paso

Innovative Minds
11436 Rojas, Suite B-10
El Paso, TX 79936

From West: Take I-10 East. Take exit 30 toward Lee Trevino Dr. Left on N Lee Trevino Dr and merge to the far right lane. At the Bank of America, R on Rojas Dr. Innovative Minds is located on right in the Rojas Business Ctr. From East: Take I-10 West. Take exit 30 toward Lee Trevino Dr. Merge to far right lane and at the One Source Federal Credit Union, Right on Goodyear Dr. At street light, Left on Rojas Dr. Innovative Minds is located on the left in the Rojas Business Ctr.

Fort Worth

6801 McCart Avenue, Suite B-1
Fort Worth, TX 76133

From I-20 take the McCart Ave exit #435. Go South on McCart Ave passing Altamesa Blvd. You will turn left at the next light which would be Southpark Lane. To the right you may enter the 1st immediate parking entrance or the 2nd parking entrance on your right at 6801 McCart Ave Professional Building. Our office suite is B1 which is located on the Northside of the building facing Southpark Lane.

Harlingen - Innovative Minds

2404 F St., Suite D
Harlingen, TX 78552

From McAllen, TX: Take I-2/US-83 E. Use the right two-lanes to take the US-77 S/US-83 S exit toward Brownsville. Take the exit toward Farm to Market Rd 1479/F St/Rangerville Rd. Merge onto S Frontage Rd. Turn right on S Idaho St.

From Brownsville, TX: Take US-77 N/US-83 N. Merge onto I-69E N/US-77 N/US-83 N. Take the exit toward Farm to Market Rd 1479/F St/Rangerville Rd. Merge onto S Frontage Rd. Turn left onto S Rangerville Rd. Turn left onto S Frontage Rd. Turn right on S Idaho St. Additional parking available on Idaho Street.

Houston North (Greenbriar Place)

Greenbriar Place
650 North Sam Houston Pkwy E, Suite 535
Houston, TX 77060

*From the Beltway 8 going West, exit Imperial Valley Drive. U-turn under the belt. Go East on the Service Road (N Sam Houston Pkwy E). The site is just before the Hardy Toll Road Exit.
From I-610, take 45-North toward Dallas, exit Beltway 8 - East. Go East on the Service Road of Beltway 8 (N Sam Houston Pkwy E).*

Houston (East)

Atrium Building
11811 I-10 East Freeway, Suite 260
Houston, TX 77029

From I-10 East, take the Federal Rd exit #778A. U-turn under the freeway and come back on the feeder road going West. Building is on the right side, next to Pappasito's Cantina.

From I-10 West, take the Holland Rd exit. Stay on the feeder road. Building is on the right side, next to Pappasito's Cantina.



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NOTES:

Houston (Southwest)

One West Belt
9555 W. Sam Houston Pkwy South, Suite 250
Houston, TX 77099

The street address is on the marquee in front of the building (9555 West Sam Houston Parkway South). On a smaller sign, sitting down in the grass next to the entry on Bissonnet, is the notation, "One West Belt". The Sam Houston Pkwy is also known as Beltway 8.

From US 59, heading South: Take the Bissonnet exit and turn right onto Bissonnet. Go about one mile - the building is on the right just before you reach the West Sam Houston Pkwy. You can turn right from Bissonnet into the parking lot, or, if you come to the Beltway, turn right onto the feeder road and then an immediate right into the parking lot.

From US 59, heading North: Take the Bissonnet exit and turn left (under the freeway) onto Bissonnet. Go about one mile - the building is on the right just before you reach the West Sam Houston Pkwy. You can turn right from Bissonnet into the parking lot, or, if you come to the Beltway, turn right onto the feeder road and then an immediate right into the parking lot.

From the West Sam Houston Pkwy South (also known as Beltway 8), heading South: Take the Bissonnet exit and turn left (under the freeway) onto Bissonnet. Turn left into the parking lot of the first building on the left.

From the West Sam Houston Pkwy South (also known as Beltway 8), heading North: Take the West Bellfort exit and travel about two miles on the feeder road to Bissonnet. Turn right on Bissonnet and then left into the parking lot of the first building on the left, OR do not turn on Bissonnet but drive through the intersection and then make an immediate right into the parking lot.

Houston (Northwest)

9800 Northwest Freeway
Suite 200
Houston, TX 77092

From Hwy 290 EASTBOUND take Exit 13C toward West T C Jester Blvd. Stay Straight to go onto N Loop Fwy W. Make a U-turn onto N Loop Fwy W. Stay on the feeder road, Sheraton Hotel is on the right as the road curves right. Turn into the parking lot immediately after the Sheraton Hotel and before the office building. Site is on the 2nd floor.

Driving north on Loop 610 West exit at T.C. Jester and then U-turn under Loop 610. Stay on the feeder road, Sheraton Hotel is on the right as the road curves right. Turn into the parking lot immediately after the Sheraton Hotel and before the office building. Site is on the 2nd floor.

Driving west on Loop 610 North, exit at T.C. Jester and then U-turn under Loop 610. Stay on the feeder road, Sheraton Hotel is on the right as the road curves right. Turn into the parking lot immediately after the Sheraton Hotel and before the office building. Site is on the 2nd floor.

Lubbock

The Center
4413 82nd St., Suite 210
Lubbock, TX 79424

From S Loop 289, take the Quaker Ave exit and go South. Turn right on 82nd St.

McAllen

7112 N. 10th Street Suite 100
McAllen, TX 78504

From S Expressway 281/15 US-281, turn right onto E Trenton Rd. Turn left onto N 10th St/TX-336. Robin Business Park is on the left. Turn left to enter the park. 7112 will be on your left behind the restaurant. The test center is located in Suite 100. Upon arrival, please report directly to the test center. If the door is locked, please wait in your vehicle until 1/2 hour before your exam is to begin.

Midland

Westwood Village Shopping Center
4200 West Illinois Avenue, Suite 200
Midland, TX 79703

From I-20, take Midkiff Road exit. Go North on Midkiff Road. Take a left on Illinois Ave. Go .8 miles and turn right into Chinese Kitchen's parking lot at 4200 W Illinois. Suite is at the end of the left Strip.

From Business 20 (Old Hwy 80) going West, follow Front Street until Wall St Traffic light. Go 2 blocks and turn right on Midkiff. Turn left on Illinois. Go .8 miles and turn right into Chinese Kitchen's parking lot at 4200 W Illinois. Suite is at the end of the left Strip.

From North Hwy 349, Look for Loop 250 West (just before overpass). Turn right at Loop and go 2 miles to Exit Midkiff. Turn left at traffic light. Turn right at Illinois traffic signal. Turn right onto Chinese Kitchen's parking Lot at 4200 W Illinois. Suite is at the end of the left Strip.

San Antonio

6655 First Park 10 Blvd., Suite 230
San Antonio, TX 7821

From I-10 West - Take exit 565A towards Crossroads Blvd/Balcones Heights and merge onto Frontage Rd. Turn right onto First Park Ten Blvd and go about 1/2 mile. The building will be on the right.

San Antonio

9502 Computer Drive, Ste 105
San Antonio, TX 78229

From I-10 West, take exit 561 for Wurzbach and Medical Drive. Stay on the access road passed Medical Drive, then turn left on Wurzbach (going under the freeway). Proceed one block on Wurzbach, then turn left on Bluemel. Proceed one block on Bluemel, turn left on Computer Drive, then turn right into the parking lot for the Neuromuscular Institute of Texas at 9502 Computer Drive. PSI is in suite 105.

From I-10 East, take the Wurzbach exit and turn right on Wurzbach (going under the freeway), then follow the directions above.



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Property Tax Education Coalition, Inc.

NOTES:

Tyler

3800 Paluxy Dr, Suite 310
Tyler, TX 75703

From 1-20, turn south on Hwy 69 and go to Loop 323. Turn right on 323 and follow 323 to the intersection of Paluxy Dr. Turn right on Paluxy Drive. The Paluxy Square Complex will be immediately on the left. Go to Building 3 which is in the back.

Waco

345 Owen Lane, Suite 124
Waco, TX 76710

From TX-6, take the Waco Drive exit, loop under the bridge where you will be on Sanger Ave, turn right on Owen Ln. The examination site is behind the Richland Mall and directly across the street from the City of Waco water tower. If you are coming in on the South Hwy 6, take the South Loop 340, then take Sanger Ave Exit.

EXAMINATION CONTENT OUTLINES AND REFERENCES MATERIALS

Note: Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, and/or indexed prior to the examination session. However, references may not be written in. Any candidate caught writing in the references during the examination will be reported to the Texas Department of Licensing and Regulation. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. References may be tabbed/indexed with permanent tabs only. (Permanent tabs are defined as tabs that would tear the page if removed). Temporary tabs, (defined as Post-It Notes, or other tabs that may be removed without tearing the page) are not allowed and must be removed from the reference before the exam will begin. Scratch paper will be provided for calculations. Candidates will NOT be permitted to remove from the examination room ANY material that has been written on.

NON-SCORED QUESTIONS

Your examination contains non-scored questions. The use of such questions is an essential step in developing accurate future examinations. These questions will NOT be scored and time to answer them has been added to the time allowed.

TX APPRAISER - CLASS III

EFFECTIVE MARCH 1, 2024, the examination items will be referenced to the 2023 Texas Property Tax Code and the 2024 edition of the Uniform Standards of Professional Appraisal Practice (USPAP).

Texas Appraiser - Class III Examination

100 Scored Items - 220 Minutes - 70% Correct to Pass
5 Non-Scored Items - 10 Minutes
Examination Fee \$71

CONTENT OUTLINE

Subject Area	# of Items
Texas Property Tax System	13
Administration	



Taxability and Exemptions

Appraisal Phase

Equalization Phase

Assessment Phase

Collection Phase

Property and Value Concepts

Ethics 5

General Appraisal 5

Appraisal Definitions

Special Use Valuation

Cost Approach to Value 19

Cost Approach Theory

Land Valuation

Cost Concepts

Depreciation

Computations

Sales Comparison Approach to Value 19

Sales Comparison Approach Theory

Application Techniques

Gross Income and Gross Rent Multipliers

Computations

Income Approach to Value 20

Expenses

Capitalization

Income

Market

Miscellaneous

Direct Capitalization

Yield Capitalization

Computations

Appraisal of Personal Property 14

Concepts

Definitions

Taxability

Situs

Discovery

Valuation Techniques

Inventory Valuation

Fixed Asset Valuation

Property Tax Education Coalition, Inc.

NOTES:

Computations	
USPAP	5
Standards 5 and 6	
USPAP Basic Rules	

REFERENCE LIST

This examination is CLOSED BOOK. The following reference materials are not allowed in the examination site.

- Property Assessment Valuation, International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, IL 60601
- Texas Property Tax Code, <http://www.comptroller.texas.gov/taxinfo/proptax/tnt/>
- Texas Government Code Chapter 552
- Texas Government Code Chapter 551
- Texas Administrative Code Chapter 94
- Uniform Standards of Professional Appraisal Practice 2020-2021.
- Texas Constitution Article 8
- Texas Property Tax Professionals - 16 Texas Administrative Code, Chapter 94, <http://www.tdlr.texas.gov/>

Calculated ratios should be rounded to two decimal places. All other calculations should be rounded to four decimal places.

TX APPRAISER - CLASS IV (RPA)

EFFECTIVE MARCH 1, 2024, the examination items will be referenced to the 2023 Texas Property Tax Code and the 2024 edition of the Uniform Standards of Professional Appraisal Practice (USPAP).

Texas Appraiser - Class IV (RPA) Examination
 150 Scored Items - 330 Minutes - 70% Correct to Pass
 10 Non-Scored Items - 30 Minutes
 Examination Fee \$100

CONTENT OUTLINE

Subject Area	# of Items
Texas Property Tax System	7
Administration	
Taxability and Exemptions	
Property and Value Concepts	
Tax Calendar	
Ethics	5
General Appraisal	5
Appraisal Definitions	
Special Use Valuation	
Cost Approach to Value	23
Cost Approach Theory	
Land Valuation	
Cost Concepts	



Depreciation	
Computations	
Sales Comparison Approach to Value	20
Sales Comparison Approach Theory	
Application Techniques	
Gross Income and Gross Rent Multipliers	
Computations	
Income Approach to Value	23
Expenses	
Capitalization	
Income	
Market	
Miscellaneous	
Direct Capitalization	
Yield Capitalization	
Computations	
Appraisal of Personal Property	17
Concepts	
Definitions	
Taxability	
Situs	
Discovery	
Valuation Techniques	
Inventory Valuation	
Fixed Asset Valuation	
Computations	
Mass Appraisal	30
Appraisal to Sale Ratio	
Bias	
Classification System	
Computations	
Coefficient of Dispersion	
Appraisal Concepts	
Cost	
Appraisal Definitions	
Model Building	
Schedules	
Statistical Analysis	
Unit Value of RCN	
USPAP	5
Texas Property Tax Law	15
Other Sources of Governing Law	
Texas Property Tax Code	

REFERENCE LIST

This examination is CLOSED BOOK. The following reference materials are not allowed in the examination site.

Property Tax Education Coalition, Inc.

NOTES:

- Property Assessment Valuation, International Association of Assessing Officers, 130 East Randolph Street, Suite 850, Chicago, IL 60601
- Texas Property Tax Code, <http://www.comptroller.texas.gov/taxinfo/proptax/tnt/>
- Texas Government Code Chapter 552
- Texas Government Code Chapter 551
- Texas Administrative Code Chapter 94
- Uniform Standards of Professional Appraisal Practice 2020-2021
- Texas Constitution Article 8
- Texas Property Tax Professionals - 16 Texas Administrative Code, Chapter 94, <http://www.tdlr.texas.gov/>
- Fundamentals of Mass Appraisal 2011, International Association of Assessing Officers (Will be used effective 3/1/2024)

Calculated ratios should be rounded to two decimal places. All other calculations should be rounded to four decimal places.

TEXAS COLLECTOR - CLASS III (RTC)

Effective 3/1/2024 the examination items are referenced to the TX 2023 Property Tax Code.

Texas Collector - Class III (RTC) Examination
80 Scored Items - 120 Minutes - 70% Correct to Pass
5 Non-Scored Items - 10 Minutes
Examination Fee \$52

CONTENT OUTLINE

Subject Area	# of Items
Texas Property Tax System	18
Tax Calendar	
Entities Involved in the System	
Overview of Ad Valorem in Texas	
Basic Appraisal Concepts	
Agricultural Change of Use Penalty	4
Basic Current and Delinquent Tax Collections	35
Reports/Receipts/Tax Certificates	
Payment Options	
Tax Bills/Rolls	
Corrected/Supplemental Bills	
Refunds/Overpayments	
Calculation of Penalty/Interest	
Delinquent Installment Agreement	
Abatement/Deferrals of Delinquent Taxes	
Waiver of Penalty and Interest	
Basics of Assessment	9



Definition of Terms	
Preparation of the Tax Roll and Bills	
Ethics	5
Property Tax Law	9
Property Tax Code	
Constitutional Requirements	
Sources of Property Tax Law	

REFERENCE LIST

This examination is OPEN BOOK. The following reference materials are allowed in the examination site. If you are downloading from the Internet, you may bring this reference into the testing center with you as long as it is bound. You can have it spiral bound or you may hole-punch it and put it in a binder. No loose paper is allowed.

The examination has been developed using the most current editions of the reference materials shown below. You may bring these or any other edition into the examination.

- Texas Property Tax Code*
- Texas Property Tax Laws*
- Texas Property Tax Professionals rules - 16 Texas Administrative Code, Chapter 94**

*Available from:
<http://www.comptroller.texas.gov/taxinfo/proptax/tnt/>

**Available from:
<http://www.tdlr.texas.gov/>

TEXAS ASSESSOR/COLLECTOR - CLASS IV (RTA)

Effective 3/1/2024 the examination items are referenced to the TX 2023 Property Tax Code.

Texas Assessor/Collector - Class IV (RTA) Examination
150 Scored Items - 210 Minutes - 70% Correct to Pass
10 Non-Scored Items - 20 Minutes
Examination Fee \$52

CONTENT OUTLINE

Subject Area	# of Items
Texas Property Tax System	23
Tax Calendar	
Entities Involved in the System	
Overview of Ad Valorem in Texas	
Basic Appraisal Concepts	
Collection Litigation	8
Litigation Terminology	
Litigation Procedures	
Truth-In-Taxation	19

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NOTES:

Calculation of Preliminary Rates	
Difference in Procedures Among Entities	
Roles and Responsibilities	
Worksheet Calculations	
Agricultural Change of Use Penalty	5
Current and Delinquent Tax Collections	50
Reports, Receipts, and Tax Certificates	
Payment Options	
Tax Bills and Rolls	
Corrected or Supplemental Bills	
Refunds and Overpayments	
Calculation of Penalty and Interest	
Delinquent Installment Agreement	
Abatement and Deferrals of Delinquent Taxes	
Foreclosures, Seizures, Sales, and Resales	
Waiver of Penalty and Interest	
Basics of Assessment	20
Notice and Hearing	
Definition of Terms	
Tax Rate Adoption	
Election Administration	
Preparation of the Tax Roll and Bills	
Ethics	5
Property Tax Law	20
Property Tax Code	
Constitutional Requirements	
Sources of Property Tax Law	

REFERENCE LIST

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*Available from:
<http://www.comptroller.texas.gov/taxinfo/proptax/tnt/>

**Available from:
<http://www.tdlr.texas.gov/>



Property Tax Education Coalition, Inc.



EXAMINATION ACCOMMODATIONS OR OUT-OF-STATE TESTING REQUEST FORM

All examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990. Applicants with disabilities or those who would otherwise have difficulty taking the examination may request Exam Accommodations.

REQUEST ACCOMMODATION VIA ONLINE

Applicants with disabilities or those who would otherwise have difficulty taking the examination should request for alternative arrangements by [Clicking Here](#). You will be contacted via email within 48 hours.

Requirements for examination accommodation requests:

You are required to submit documentation from the medical authority or learning institution that rendered a diagnosis. Verification must be submitted to PSI on the letterhead stationery of the authority or specialist and include the following:

- ▣ Description of the disability and limitations related to testing
- ▣ Recommended accommodation/modification
- ▣ Name, title and telephone number of the medical authority or specialist
- ▣ Original signature of the medical authority or specialist

REQUEST ACCOMMODATION VIA FAX OR EMAIL

If you prefer you may fax this form, along with supporting documentation, to (702) 932-2666 or email it to examaccommodations@psionline.com. After 4 days, PSI Exam Accommodations will email you confirmation of approval with instructions for the next step.

Date: _____ ID#: _____

Legal Name: _____
Last Name First Name

Address: _____
Street City, State, Zip Code

Telephone: (_____) _____ - _____ Email Address: _____
Cell

Check any examination accommodations you require (requests must concur with documentation submitted):

- | | |
|---|---|
| <input type="checkbox"/> Reader (as accommodation for visual impairment or learning disability) | <input type="checkbox"/> Extended time (Additional time requested: _____) |
| <input type="checkbox"/> Large-print written examination | <input type="checkbox"/> Request for a translated examination (this request does not require additional documentation)
<i>You will be advised of the cost once PSI receives the quote for the translation. This fee will be paid by the candidate.</i> |
| <input type="checkbox"/> *Out-of-State Testing Request (this request does not require additional documentation) | |

Site requested: _____
**You may email your out-of-state request to OutofStateRequest@psionline.com for written exams only*

YOU MUST BE APPROVED BY TDLR TO TAKE THIS EXAMINATION

DO NOT SCHEDULE YOUR EXAMINATION UNTIL THIS DOCUMENTATION HAS BEEN RECEIVED AND PROCESSED BY PSI SPECIAL ACCOMMODATIONS

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Section Two: Texas Department of Licensing & Regulation (TDLR)

Property Tax Education Coalition, Inc.

Texas Department of Licensing & Regulation (TDLR) Administrative Code

Designations- Section 94.10

Registered Texas Collector (RTC)--Certified Class III Collector.

Registered Texas Assessor/Collector (RTA)--Certified Class IV Assessor/Collector.

Registered Professional Appraiser (RPA)--Certified Class IV Appraiser.

Registration & Certification -

1. What does the Property Tax Professionals program do?

The Property Tax Professionals program registers and regulates property tax appraisers, assessor/collectors and collectors in the state of Texas with the exception of elected county tax assessor-collectors and their employees.

2. Who must be registered with TDLR as a Property Tax Professional? (Section 94.20)

(1) the chief appraiser of an appraisal district, an appraisal supervisor or assistant, a property tax appraiser, an appraisal engineer, and any other person authorized to render judgment on, recommend, or certify an appraised value to the appraisal review board of an appraisal district;

(2) a person who engages in appraisal of property for ad valorem tax purposes for an appraisal district or a taxing unit.

3. What are the requirements to be registered with TDLR as a Property Tax Professional? (Section 94.21)

To be eligible to register as a Property Tax Professional with TDLR, an individual must be:

- At least 18 years old,
- A resident of the state of Texas,
- Of good moral character,
- A graduate of an accredited high school or have a high school GED, and
- Actively engaged in the appraisal, assessment, or collection of ad valorem taxes.

NOTES:

Property Tax Education Coalition, Inc.

Elected county assessor-collector or employees of the elected county assessor-collector, are not eligible or required to be registered with TDLR.

4. How do I become certified? (Section 94.21)

There are three fields (appraisal, assessing/collecting and collecting only); each has its own requirements. The education and examination requirement for each certification is located on the [Property Tax Professionals Education page](#).

5. How long do I have to achieve my certification? (Section 94.21)

If you are pursuing the Appraiser (RPA) or the Assessor (RTA) certifications, you have a maximum of 5 years from the original registration issuance date to achieve your certification. (Example: Your registration at TDLR was 10/31/2021. The deadline for you to achieve certification is 10/31/2026).

If you are pursuing the Collector certification, you have a maximum of 3 years. (Example: Your registration at TDLR was 10/31/2021. The deadline for you to achieve certification is 10/31/2024.)

TDLR Rules

Responsibilities

94.70. Responsibilities of a Registrant: General.

- (a) A registrant must not violate any provision of the Act or this chapter.
- (b) A registrant must timely respond to the department's investigative requests including making a complete written answer to any complaint.
- (c) *Registrants must inform the department within 30 days of any changes to their employment and change their registration as appropriate.*
- (d) A registrant must not violate the property tax professional's Code of Ethics, referenced in §94.100, or aid or encourage another to violate the Code of Ethics.
- (e) A registrant must not engage in any practices that constitute acts of improper influence, conflict of interest, unfair treatment, discrimination, abuse of powers, or misuse of titles.
- (f) A registrant must be in compliance with any report issued by the Comptroller of Public Accounts under §5.102 of the Tax Code.

NOTES:

Property Tax Education Coalition, Inc.

(g) An appraisal registrant or assessor/collector must be certified in their field within five years of registration.

(h) A collector registrant must be certified in their field within three years of registration.

(i) A registrant may act in a purely private capacity regarding a personal tax matter so long as he does not use his official position to influence the outcome of such a dispute.

What if I change employers? (Section 94.70)

If you have changed employers or become employed after being 'unsponsored,' you and your employer must notify TDLR within 30 days by submitting the [Change Employer Form](#)

94.71. Responsibilities of a Registrant: Equal and Fair Treatment.

(a) A registrant must apply equally and fairly any appraisal, assessment, or consulting service according to the Uniform Standards of Professional Appraisal Practice and generally accepted appraisal, assessment, or collection practices applicable to an assignment.

(b) A registrant may not accept or solicit any benefit in return for favorable treatment.

(c) A registrant must not knowingly testify falsely or withhold any information, or influence anyone into testifying falsely or withholding any information in any investigation or proceeding.

(d) A registrant must not knowingly mislead any member of the public who makes a reasonable inquiry or request on tax matters.

e) A registrant must not predetermine the value or value range of a property or properties and then manipulate data to arrive at a predetermined conclusion.

(f) A registrant must not perform calculations:

(1) by methods other than those directed by law, rule, or written guidance of the Comptroller of Public Accounts, or

(2) that are designed to result in a predetermined effective tax rate, or rollback tax rate, current or delinquent collection rate, or other value, rate, or ratio used for official purposes.

(g) A registrant must not provide, to any private party, information that is not provided to, or reasonably available to all persons.

NOTES:

Property Tax Education Coalition, Inc.

94.72. Responsibilities of a Registrant: Conflicts of Interest.

- (a) A registrant must disclose in writing to the appraisal district or taxing entity any relationship of consanguinity within the third degree that may relate to an assignment so long as he holds a registration position.
- (b) A registrant must disclose in writing to the appraisal district or taxing entity any outside employment.
- (c) A registrant must disclose in writing to the appraisal district or taxing entity any financial interest in any private business or real property subject to the appraisal district or taxing entity where she is employed.
- (d) A registrant must not invest in property, interests, or transactions which create a conflict of interest, or which affects independent judgment or performance in the official position.
- (e) A registrant must not engage in any activity or employment outside of the appraisal office or tax office if such engagement adversely affects his impartiality in the execution of his official duties or adversely affects the performance of his official duties.
- (f) A registrant must not use agency resources for the personal benefit of himself, any party in whom he has an interest, or any public servant; or for the benefit of any social or political organization unless any member of the general public could make similar use of the agency resources.
- (g) A registrant in their official capacity must not endorse the services or products of any person or firm.

94.73. Responsibility of Registrant: Use of Titles.

A person may not use the titles Registered Professional Appraiser, Registered Texas Assessor/Collector, or Registered Texas Collector unless he is an active and certified registrant with the department and performing official duties as a property tax appraiser, assessor/collector, or collector.

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**Section Three:
Code of Ethics
Course 30
Texas Penal Code Section 36**

Class III and IV: 5 Questions

Property Tax Education Coalition, Inc.

Texas Administrative Code

Chapter 94.100. Code of Ethics

(To disregard is a violation of state law)

The Code of Ethics summarizes the behavior that is expected of registrants in the tax profession. You are expected to recall these seven principles for your Level III exam.

Registrants must:

- (1) be guided by the principle that property taxation should be fair and uniform, and apply all laws, rules, methods, and procedures, in a uniform manner, to all taxpayers;
- (2) not accept or solicit any gift, favor, or service that might reasonably tend to influence the registrant in the discharge of official duties, with the following exceptions:
 - A. the benefit is used solely to defray the expenses that accrue in the performance of duties or activities in connection with the office which are non-reimbursable by the state or political subdivision;
 - B. a political contribution as defined by Title 15 of the Election Code; or
 - C. an item with a value of less than \$50, excluding cash or a negotiable instrument;
- (3) not use information received in connection with the duties of an appraiser, assessor, or collector for their own purposes, unless such information can be known by ordinary means to any ordinary citizen;
- (4) not engage in an official act that is dishonest, misleading, fraudulent, deceptive, or in violation of law;
- (5) not conduct their professional duties in a manner that could reasonably be expected to create the appearance of impropriety;
- (6) not accept an appraisal, assessment, or collection related assignment that can reasonably be construed as being in conflict with the registrant's responsibility to their jurisdiction, employer, or client, or in which the registrant has an unrevealed personal interest or bias; and
- (7) not accept an assignment or responsibility in which the registrant has a personal interest without full disclosure of that interest.

NOTES:

Property Tax Education Coalition, Inc.

Texas Penal Code

Section 36.02. Bribery, (excerpts)

- a) A person commits an offense if he intentionally or knowingly offers, confers, or agrees to confer on another, or solicits, accepts, or agrees to accept from another:
- (1) any benefit as consideration for the recipient's decision, opinion, recommendation, vote, or other exercise of discretion as a public servant, party official, or voter;
 - (2) any benefit as consideration for the recipient's decision, vote, recommendation, or other exercise of official discretion in a judicial or administrative proceeding;
 - (3) any benefit as consideration for a violation of a duty imposed by law on a public servant or party official; or
 - (4) any benefit that is a political contribution as defined by Title 15, Election Code, or that is an expenditure made and reported in accordance with Chapter 305, Government Code, if the benefit was offered, conferred, solicited, accepted, or agreed to pursuant to an express agreement to take or withhold a specific exercise of official discretion if such exercise of official discretion would not have been taken or withheld but for the benefit; notwithstanding any rule of evidence or jury instruction allowing factual inferences in the absence of certain evidence, direct evidence of the express agreement shall be required in any prosecution under this subdivision.

Section 36.05. Tampering With Witness.

- a) A person commits an offense if, with intent to influence the witness, he offers, confers, or agrees to confer any benefit on a witness or prospective witness in an official proceeding or coerces a witness or prospective witness in an official proceeding:
- (1) to testify falsely;
 - (2) to withhold any testimony, information, document, or thing;
 - (3) to elude legal process summoning him to testify or supply evidence;
 - (4) to absent himself from an official proceeding to which he has been legally summoned; or
 - (5) to abstain from, discontinue, or delay the prosecution of another.

NOTES:

Property Tax Education Coalition, Inc.

Section 36.07. Acceptance Of Honorarium.

- a) A public servant commits an offense if the public servant solicits, accepts, or agrees to accept an honorarium in consideration for services that the public servant would not have been requested to provide but for the public servant's official position or duties.
- b) This section does not prohibit a public servant from accepting transportation and lodging expenses in connection with a conference or similar event in which the public servant renders services, such as addressing an audience or engaging in a seminar, to the extent that those services are more than merely perfunctory, or from accepting meals in connection with such an event.

Sec. 36.08. Gift To Public Servant By Person Subject To His Jurisdiction.

- a) A public servant in an agency performing regulatory functions or conducting inspections or investigations commits an offense if he solicits, accepts, or agrees to accept any benefit from a person the public servant knows to be subject to regulation, inspection, or investigation by the public servant or his agency.

Sec. 36.09. Offering Gift To Public Servant.

- a) A person commits an offense if he offers, confers, or agrees to confer any benefit on a public servant that he knows the public servant is prohibited by law from accepting.
- b) An offense under this section is a Class A misdemeanor.

Sec. 39.02. Abuse of Official Capacity

- a) A public servant commits an offense if, with intent to obtain a benefit or with intent to harm or defraud another, he intentionally or knowingly:
 - 1. violates a law relating to the public servant's office or employment; or
 - 2. misuses government property, services, personnel, or any other thing of value belonging to the government that has come into the public servant's custody or possession by virtue of the public servant's office or employment.

Complete review questions on next page.

NOTES:

Property Tax Education Coalition, Inc.

Review Questions: TDLR Rules-Ethics

1. **Violation of the TDLR Code of Ethics is a violation of:**
 - a. Federal Law
 - b. State Law
 - c. Local Jurisdiction
 - d. County Law

2. **TDLR Rules state that property taxation should be:**
 - a. Fair
 - b. Equal
 - c. Agreeable between parties
 - d. Fair & Equal

3. **Who is NOT required to register with TDLR?**
 - a. Chief Appraiser
 - b. Appraisal Supervisor
 - c. Anyone who engages in appraisal for ad valorem taxation.
 - d. CAD Board Member

4. **A registrant in their official capacity must not:**
 - a. Support a political candidate.
 - b. Donate to political candidates
 - c. Vote
 - d. Must not endorse services or products in their official capacity.

5. **If a registrant changes agency, how long do they have to notify TDLR?**
 - a. 15 days
 - b. 20 days
 - c. 30 days
 - d. No defined time frame.

Property Tax Education Coalition, Inc.

6. A candidate for RPA has how many years to become certified as an RPA?
- a. 3
 - b. 2
 - c. 5
 - d. 6
7. Which state agency licenses and regulates Property Tax Professionals?
- a. Texas Comptroller of Public Accounts
 - b. Texas Education Agency
 - c. Texas Department of Licensing & Regulation
 - d. Texas Real Estate Commission
8. A registrant can request an extension of time to complete certification requirements for all of the following reasons EXCEPT:
- a. Family Medical Leave Act.
 - b. Active military service.
 - c. At the request of the Chief Appraiser or TAC.
 - d. At the request of the governing body.
9. TDLR Rule §94.71 bars a registrant from providing information to a private party if the information is not reasonably available to all parties. There is an exception to the rule if the information:
- a. is requested in writing.
 - b. is confidential.
 - c. relates to individual properties.
 - d. relates to specific properties.
10. The Tax Code requires which of the following to be open to the public?
- a. Staff meetings at which calculations of effective tax rates are discussed.
 - b. Discussions between a collector and a chief appraiser.
 - c. Protest hearings.
 - d. Discussions between a governing body and its attorney.

Property Tax Education Coalition, Inc.

11. Offering a gift to a public servant by a person that is subject to their jurisdiction:

- a. Is acceptable as long as it is valued at less than \$50.
- b. Violates Section 36.07.
- c. Is a misdemeanor.
- d. Is a felony.

12. According to the Code of Ethics, a registrant must per duties in a way that avoids the appearance of?

- a. Being unprofessional.
- b. Being too friendly with the public.
- c. Impropriety.
- d. Personal interest.

NOTES:

Section Four: Uniform Standards of Professional Appraisal Practice (USPAP)

Class III and IV: 5 Questions

Property Tax Education Coalition, Inc.

A. Terminology

NOTES:

Appraisal Standards Board (ASB)	Part of the Appraisal Foundation that develops, publishes, interprets, and amends the Standards of USPAP on behalf of appraisers and the users of appraisal services.
Certification	Each USPAP Compliant appraisal report must contain a signed certification, which is an integral part of the report.
Scope of Work	The type and extent of research and analyses in an appraisal or appraisal review assignment.
Statements	Statements on Appraisal Standards are authorized by the bylaws of the Appraisal Foundation and are specifically for the purpose of clarification, interpretation, explanation, or elaboration of USPAP. Statements have full weight of a Standards Rule and can be adopted by the Appraisal Standards Board only after exposure and comment. There are currently no active statements.
Uniform Standards of Professional Appraisal Practice (USPAP)	These standards are based on the original USPAP developed in 1986-87 by the Ad Hoc Committee on Uniform Standards and copyrighted in 1987 by The Appraisal Foundation.
USPAP Standard 5	Mass Appraisal, Development
USPAP Standard 6	Mass Appraisal, Reporting
Work file	Data, information and documentation necessary to support an appraiser's analyses, opinions, and conclusions.

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B. Definitions

NOTES:

Appraisal:	The act or process of developing an opinion of value or an opinion of value.
Appraisal Practice:	Valuation services performed by an individual acting as an appraiser, including but not limited to appraisal and appraisal review.
Bias:	a preference or inclination that precludes an appraiser's impartiality, or objectivity in an assignment.
Extraordinary Assumption:	an assignment specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.
Hypothetical Condition:	a condition, directly related to a specific assignment, which is exist on the effective date of the assignment results but is used for the purpose of analysis.
Mass Appraisal:	the process of valuing a universe of properties as of a given date using standard methodology, employing common data, and allowing for statistical testing.
Mass Appraisal Model:	a mathematical expression of how supply and demand factors interact in a market.
Scope of Work:	the type and extent of research and analyses in an appraisal or appraisal review assignment.

Complete the review questions.

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Review Questions: USPAP

1. **Who are the users of USPAP?**
 - a. Government agencies and banks.
 - b. Mortgage companies and appraisers.
 - c. Appraisers and users of appraisal services.
 - d. Sellers of properties and real estate agents.

2. **What board develops, publishes, interprets and amends USPAP?**
 - a. Appraisal Standards Board
 - b. Appraisal Qualifications Board
 - c. Appraisal Foundation
 - d. Appraisal Practices Board

3. **Every USPAP compliant appraisal must have a signed certification except:**
 - a. Restricted Use Report.
 - b. All USPAP compliant reports must have signed certifications.
 - c. Business Intangible Reports.
 - d. Mass Appraisal Reports.

4. **A mathematical expression of how supply and demand factors interact in the market is:**
 - a. Multiple Regression.
 - b. Mass Appraisal Model.
 - c. Scope of Work.
 - d. Mass Appraisal.

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5. **The type and extent of research and analyses in an appraisal or appraisal review assignment describes:**
 - a. Scope of Work
 - b. Work File
 - c. Mass Appraisal
 - d. Letter of Transmittal

6. **USPAP is an acronym for:**
 - a. United States Professional Appraisal Practice
 - b. Uniform Standards of Property Appraisal Practice
 - c. Uniform Standards of Professional Appraisal Practice
 - d. Understanding Standards of Professional Appraisal Practice

7. **Which of the following professionals should comply with USPAP?**
 - a. Appraisers.
 - b. Real estate brokers.
 - c. Tax agents.
 - d. Individuals acting as an appraiser.

8. **Which USPSP Standard is used for the development of a Mass Appraisal?**
 - a. Standard 6.
 - b. Standard 5.
 - c. Standard 3.
 - d. Standard 1.

9. **USPAP Standards 5 & 6 on Mass Appraisals are used for the following?**
 - a. Ad valorem property tax appraisals only.
 - b. Fee appraisals of multiple lots.
 - c. All mass appraisals.
 - d. Valuing inventory lots and houses only.

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10. Tax Code Sect. 23.01 states that “The market value of a property shall be determined by the application of generally accepted appraisal methods and techniques” and must comply with?

- a. TDLR Rules.
- b. IAAO Standards.
- c. USPAP.
- d. Comptroller PTAD Rules.

11. What appraisal organization represented the mass appraisal industry during the creation of appraisal standards?

- a. Texas Comptroller of Public Accounts
- b. International Association of Assessing Officers (IAAO)
- c. American Society of Mass Appraisers
- d. International Society of Mass Appraisers

12. Each written mass appraisal report must contain:

- a. Signed certification.
- b. All three approaches to value.
- c. An addendum.
- d. Jurisdictional Exception Rule explanations.

13. Certain laws or regulations may preclude compliance with parts of USPAP. When this happens, only that part of USPAP, which may be in conflict with the law or regulation, becomes void for the assignment. This is known as:

- a. Hypothetical Condition.
- b. Jurisdictional Rule exception.
- c. Extraordinary assumption.
- d. Special condition.

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14. What is the stated purpose of USPAP?

- a. Protect the United States government.
- b. Promote and maintain a high level of public trust.
- c. Provide liability protection for appraisers.
- d. Obey the guidelines from the Appraisal Foundation.

15. When must appraisers comply with USPAP?

- a. When state requires.
- b. When conducting appraisal for federally insured mortgages.
- c. When either the services or the appraiser is required by law, regulation, or agreement with the client or intended user.
- d. When acting as an advocate for client.

16. A new section was added to what rule in the 2024-2025 USPAP?

- a. Workfile
- b. Competency
- c. Standard 6
- d. Ethics

17. The new addition in USPAP for 2024-2025 has placed great emphasis on what subject?

- a. Honesty
- b. Redlining
- c. Nondiscrimination
- d. Education

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NOTES:

Section Five: Texas Property Tax System

Course 101 Property Tax Administration

Class III: 13 Questions

Class IV: 7 Questions

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A. Definitions

<i>Appraisal</i>	<i>The act or process of developing an opinion of value; an opinion of value.</i>
Appraisal District	A quasi-governmental agency contracted to appraise properties for all the taxing entities within a county.
Appraisal District Board of Directors	Representatives for jurisdictions that contribute to the appraisal district are appointed to the board of directors (BOD). Usually, each jurisdiction has a certain number of votes based on their pro rata share of dollars contributed to the district support. If the county assessor-collector is not appointed to the board, the county assessor-collector serves as a non-voting director. An employee of a taxing unit that participates in the district is not eligible to serve on the board unless the individual is also a member of the governing body or an elected official of a taxing unit that participates in the district.
<i>Appraisal Roll</i>	<i>An appraisal roll has the property owner name, address, a description of the property, market value and taxable value of the property.</i>
Appraised Value	The estimate of the value of a property before application of any fractional assessment ratio, partial exemption, or other adjustments as outlined in Chapter 23 of the Tax Code.

NOTES:

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<i>ARB Challenge</i>	<i>Filed by a taxing unit to have a hearing before the ARB. Taxing units may challenge an exclusion of a property, granting of an exemption or productivity valuation, but not a single property appraised value.</i>
ARB Protests	Filed by a property owner to notify the appraisal district they disagree with the value of their property, description, exemption or special use valuation.
Assessed Value	The appraised value multiplied by the assessment ratio.
Assessment	The steps a taxing unit takes to impose a legal property tax.
Biennial	Every other year.
De Minimis Rate	the sum of the no-new-revenue maintenance and operations rate, the debt rate, and a rate that would generate \$500,000 if applied to the current total value.
No-New-Revenue Tax Rate	The rate that is necessary to collect the same amount of taxes as the prior year on the same properties that were taxable in the prior year.
Exemption - partial	An exemption of part of the value of taxable value. Homesteads and regular Disable Veteran exemptions for example.
Exemption - total	An exemption that completely exempts a property from taxation by law.
<i>Generally Accepted Appraisal Practice</i>	<i>Producing an estimate of value through an orderly set of steps that eliminate bias and enable testing</i>
Governing Body	The board of directors of a jurisdiction or the appraisal district.
<i>I & S</i>	<i>Debt owed by a taxing entity or Interest & Sinking Fund.</i>

NOTES:

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Jurisdiction	Generally meaning a taxing jurisdiction or an entity having the jurisdiction (legal authority) to tax.
Levy	The amount of money charged as tax or the process of calculating the tax on a property.
<i>Levy Formula</i>	<i>Tax Levy = Taxable Value X Tax Rate (FORMULA ALERT)</i>
M & O	The money to maintain day-to-day functions of a taxing jurisdiction or Maintenance & Operating
Market Value	The price for which a property would transfer for cash or its equivalent under prevailing market conditions if: exposed for sale on the open market with a reasonable time for the seller to find a purchaser; both seller and purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and both the seller and purchase seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.
PTAD	Property Tax Assistance Division, part of the Texas Comptroller's Office.
PVS	Property Value Study under normal circumstances will occur biennially. If a school district fails the PVS, a study will occur annually.
Rendition	A statement listing the taxable property and the name and address of the owner. Business personal property renditions are required by law. The rendition may or may not state the cost or owner's opinion of value.

NOTES:

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Voter-Approval Tax Rate	Taxing units other than the school districts or special taxing units, it is a calculated rate equivalent to the I&S + (M&O X 1.035).
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<i>Special Use Valuation</i>	Certain properties are required to be valued using something other than Market Value. Agricultural, Timber, Park and Airport Access land <i>must be valued using the income approach based on the current use, not highest and best use.</i>
<i>Tax Assessor</i>	<i>A person that has the authority to calculate and levy taxes for a taxing jurisdiction as provided by Chapter 26 of the tax code. Must be registered with TDLR except County Assessors.</i>
<i>Tax Certificate</i>	<i>A statement issued by the tax collector that has the taxes owed, included penalties, interest and court costs on a property.</i>
<i>Tax Collector</i>	<i>A person that sends tax bills, collects and distributes money for a taxing jurisdiction.</i>
<i>Tax Roll</i>	<i>The tax roll contains everything that is on the appraisal roll plus the tax levy.</i>
<i>Taxable Value</i>	<i>Assessed Value less exemptions.</i>
Taxing Entity Board of Directors	Persons that are elected or appointed to serve on the board of a unit that has jurisdiction to tax.
Taxing Unit	Any unit that has legal authority to levy an ad valorem tax such as schools, cities, counties....

NOTES:

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B. Administration of the Property Tax System

1. **Appraisal District** – is a special purpose local government that appraises property for tax purposes, Appraisal Districts were created to:
 - a. Avoid additional school finance litigation;
 - b. Correct inequity and poor performance by appraisers;
 - c. Restrict political influence.
2. **Texas Property Tax Code defined functions:**
 - a. **Discover** all taxable property in the district.
 - b. **List** all taxable property in the appraisal records.
 - c. **Appraise** (value) all taxable property as required by law.
3. **Appraisal District Governing Body (BOD)** – duties as it relates to the district?
 - a. Establish an office.
 - b. Appoint a Chief Appraiser.
 - c. Appoints taxpayer liaison officer (TLO) if there is one. Appraisal districts in counties with a population greater than 120,000 shall have a TLO and may have deputy TLOs as needed.
 - d. Adopts general policies.
 - e. Provide for necessary services.
 - f. The appraisal district board of directors does not appraise property.
 - g. Adopt the biennial reappraisal plan.
4. **Chief Appraiser – chief administrator of the appraisal district.** Individuals must possess one of the following in order to be appointed as a chief appraiser:
 - a. Have a Registered Professional Appraiser (RPA) certification.
 - b. Hold a Member of Appraisal Institute (MAI) designation.
 - c. Have an Assessment Administration Specialist (AAS), Certified Assessment Evaluator (CAE), or Residential Evaluation Specialist (RES) designation from the International Association of Assessing Officers (IAAO)

NOTES:

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5. Chief Appraiser general duties:

- a. Discover, list, and appraise taxable property (Real Property - Land and Improvement values must be listed separately).
- b. Determine exemptions and special appraisals.
- c. Organize periodic reappraisals.
- d. Notify taxpayers, taxing units and the public about matters that affect property values.
- e. **Chief Appraiser** regarding **exemption administration**:
 - 1) Approve the exemption application and grant the exemption.
 - 2) Allow a modified exemption and notify the taxpayer within five (5) days.
 - 3) Disapprove the application and request more information.
 - 4) Deny the exemption and notify the taxpayer in writing within five (5) days after the denial.

6. Appraisal Review Board (ARB) – duties and purpose:

- a. Hear property owner protests.
- b. Hear taxing unit challenges.
- c. Hear correction motions.
- d. Approve the records to create the appraisal roll.

7. Tax Assessor- duties and purpose:

- a. Calculates taxes.
- b. Prepares tax rolls.

8. Tax Collector - duties and purpose:

- a. Generates tax bills.
- b. Collects and accounts for taxes.

9. Jurisdiction Governing Bodies - duties as it relates to ad valorem taxation.

- a. Approves the tax roll.
- b. Set the unit's budget.
- c. Adopt tax rates.
- d. Collecting taxes.
- e. Spend taxes to provide services and/or pay the unit's debts.
- f. Approves optional partial property tax exemptions.

NOTES:

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10. Comptroller's Property Tax Assistance Division (PTAD)

Main duties include:

- a. Technical assistance to tax units and central appraisal districts.
- b. Appraisal review board (ARB) training and model hearing procedures.
- c. School District Property Value Study (PVS).
- d. Appraisal District Ratio Study.
- e. Method and Assistance Program (MAP).

C. Tax Cycle on next page— KNOW THIS

NOTES:

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Tax Cycle											
Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Appraisal Phase (1/1 – 5/15)											
				Equalization Phase (ARB) (5/15 – 7/25)							
						Assessment Phase (7/25 9/30)					
									Collection Phase (10/1 – 1/31 of following year)		
Prior year's current collections until 1/31	Prior years delinquent collection 2/1 until collected.										
Major Dates and Deadlines (Know this)											
Jan 1 Tax year begins	Feb 1 Prior year delinquency date	April 1 Notice to homeowners April 15 Renditions due April 30 Exemption applications due				May 1 Notices delivered. May 15 Records submitted to ARB. May 15 Last day to protest (or 30 days after notice is mailed)		July 20 ARB approves records July 25 Chief appraiser certifies appraisal roll		Oct 1 Tax bills usually mailed	

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1. **Appraisal Phase** – appraisal district (January 1 – May 15)
 - a. Discover, list, & appraise property.
 - b. Administer exemptions and special appraisal.
 - c. Update property records.
 - d. Deliver notices.
2. **Equalization Phase** – ARB (May 15 – July 25)
 - a. Property owner protests before May 15(or 30 days after notice is mailed if later).
 - a. Taxing unit challenges.
 - b. Approval of appraisal records by July 20.
 - c. Certification of appraisal roll by July 25.
3. **Assessment Phase** – Taxing unit and assessor (July 25 – October 1)
 - a. Appraisal roll received.
 - b. Tax rate adopted before Sept. 30 or within 60 days.
 - c. Various special procedures for tax rate increases.
 - d. Taxes calculated.
 - e. Tax roll approved.
 - f. Bills mailed around October 1.
4. **Collections Phase** – Collector (October 1 throughout the year)
 - a. Current collections; October 1 - Jan 31.
 - b. Collect current taxes.
 - c. Collect tax, penalty, and interest on delinquent taxes.
 - d. Oversee delinquent tax collection efforts.
 - e. Tax bill due on receipt.
 - f. Tax delinquent if not paid before February 1. (some circumstances may postpone the deadline)
 - g. Delinquent collections: February 1 – until collected or no longer collectable.

NOTES:

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D. Why Appraisal Districts Exist

1. Appraisal districts were created by the Texas Legislature in 1979 and began operations in 1980 -1984. Prior to the creation of appraisal districts, each taxing unit was responsible for its own appraisals. The taxing unit's governing body typically served as its ARB. Frequency of reappraisal was at the governing body's option, and the governing body could choose to assess property at a percentage of its market value. Often tax appraisers had little (or no) opportunity for continuing education and did not have the funds to operate a professional office.
2. Three reasons for the creation of appraisal districts:
 - a. **Avoid additional school finance litigation.** School funds from the state were distributed according to property wealth, but school districts had widely differing levels of appraisal and appraisal practices. It was impossible to determine the true property wealth of a school district.
 - b. **Correct inequity and poor performance by appraisers.** Each taxing unit was responsible for the taxing unit's appraisals. Many taxing units had not reappraised in years. Appraisers lacked training and tax offices were inadequately funded. There were often great differences in the level of appraisals between homeowners and business property.
 - c. **Restrict political influence.** Under the old system, the governing bodies of the taxing units, which determined spending, directly controlled the frequency and quality of reappraisals.
3. How the appraisal district concept addresses these problems:
 - a. Provides **single appraisal** and **single ARB** for all taxing units in the county. Taxpayers have the same type of appraisal for every tax they pay on a property.
 - b. Appraisers must **register** with the State and complete a mandatory training and examination process.
 - c. **Property must be appraised at market value** and all property must be reappraised at least once every three years according to a reappraisal plan adopted by the appraisal district BOD.

NOTES:

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- d. An appraisal district is **independent** of the taxing units but is overseen by a BOD that is appointed by the taxing units and not directly elected. The BOD in turn appoints the chief appraiser. As a part of continuing education, chief appraisers are required to attend a program about the importance of maintaining the independence of an appraisal district from political pressures.
- e. The **appraisal district is funded by the taxing units** and does not depend on revenues generated from its appraisals.
- f. The **Comptroller's Property Tax Assistance Division (PTAD) performs a statistical analysis of taxable values in each school district and reports the values to the commissioner of education for the purposes of equitable school funding.** In alternate years, PTAD audits the governance, taxpayer assistance, and appraisal standards and methodology used by the appraisal district.
- g. Individual taxpayers who are dissatisfied with appraisals have a **user-friendly protest process** and multiple ways to appeal the protest determination to district court, to an arbitrator, and in some counties to a state administrative law judge. Before the Property Tax Code (Tax Code), there was no clear statutory process for appealing a valuation to court; taxpayers generally had to sue on the grounds that the assessor or board of equalization had violated constitutional rights.

NOTES:

E. Exemptions - Reducing the Tax Liability for Certain Properties

- 1. An **exemption** excludes all or part of property value from taxation.
- 2. Generally, property owners are required to apply to the appraisal district for exemptions.
- 3. The chief appraiser administers exemptions and determines whether to grant exemptions.
- 4. **Key terms**
 - a. **Total Exemption** - exemption that exempts all of the property from taxation. If all of the value is exempted the property is not taxed

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- b. **Partial Exemption** - exempts part of the property's value from taxation. If part of the value is excluded, the property is taxed as if it is worth less than its actual value.
 - 1) **Lump Sum Exemption** - a partial exemption that exempts a lump sum of value, such as \$5,000.
 - 2) **Percentage Exemption** – a partial exemption that exempts a percentage of value, such as 20 percent.
 - 3) To calculate a percentage exemption, multiply the appraised value by the percentage.
 - 4) For example, 20% of \$100,000 is \$20,000.
 $100,000 \times 20\% (.20) = 20,000$
- c. **Mandatory Exemption** - an exemption that is mandated and taxing unit must offer this exemption.
- d. **Local Option Exemption** - an exemption the taxing unit may choose to offer in addition to any mandatory exemption.
- e. **Appraised Value** – can be either market value or value determined using another method of valuation according to Property Tax Code Chapter 23.
- f. **Taxable Value** – appraised value less applicable exemptions.
- g. How to calculate taxable value:
 - 1) Calculate the total dollar amount of exemptions that apply
 - 2) Percentage exemptions are subtracted from the appraised amount before lump sum exemptions are applied.
 - 3) Lump sum exemptions are added to the percentage exemption amount.
 - 4) Subtract the total exemption amount from the property's appraised value.

NOTES:

F. Exemptions for Homeowners.

1. Residence Homestead

- a. Applies to owner-occupied home that is the owner's principal residence.
- b. Basic types:

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- 1) General homestead exemptions apply to all homes that qualify (mandatory for school districts).
- 2) 65 or older exemptions apply to the home of a person who is 65 or older. A home that receives the 65 or older exemption also receives a general exemption.
- 3) Disabled persons' exemptions will apply to the homes of persons who meet the definition of disability used for the purpose of payment of disability benefits under Federal Old-Age, Survivors, and Disability Insurance. A home that receives the disabled person's exemption also receives a general exemption. A person who is both 65 or older and disabled must choose one of these two exemptions.
- 4) An eligible person who is both 65 or older and disabled may receive both a disabled and an over 65 exemptions in the same year if the person receives the exemptions with respect to taxes levied by different taxing units. They may not receive both for the same taxing unit in the same year.
- 5) The 100 percent disabled veteran's homestead exemption applies to a disabled veteran with a 100 percent service-connected disability or is unemployable. The exemption applies to the full value of the property.
- 6) The surviving spouse of a member of the United States Armed Forces who is killed in action or fatally injured in the line of duty after 01/01/22, receives a 100 percent exemption on their homestead property if the surviving spouse has not remarried. The surviving spouse may transfer the dollar amount of the exemption to a new homestead.
- 7) The surviving spouse of a first responder killed or fatally injured in the line of duty is entitled to an exemption from taxation of the total appraised value of their residence homestead if the surviving spouse has not remarried. The surviving spouse may transfer the dollar amount of the exemption to a new homestead.
- 8) A partially disabled veteran is entitled to an exemption equal to the disabled veteran's disability rating on his/her residence homestead if the homestead was donated by a charitable organization to the veteran at no cost or at not more than 50 percent of its market value.

NOTES:

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- c. If a person receiving a 65 or older exemption dies, the person's surviving spouse receives the exemption if he/she is at least 55 years old, has ownership of the property and continues to use the property as their primary residence.
- d. Temporary homestead exemption up to (5) five years for property rendered uninhabitable as a result of a disaster in an area the Governor has declared a disaster. For other disasters, the homestead exemption can be received for no more than (2) two years.
- e. Homestead exemptions are mandatory for some taxing units and optional for others, and the amounts can vary.
- f. ***Homestead exemption savings can vary dramatically from taxing unit to taxing unit.***

2. Mandatory Homestead Exemptions

- a. School districts must grant:
 - 1) \$100,000 for general exemption.
 - 2) \$10,000 for 65 or older exemption.
 - 3) \$10,000 for disabled person's exemption.
- b. Counties must grant a \$3,000 mandatory exemption against county farm-to-market/flood control tax **if they levy this tax.**
- c. All taxing units must grant a 100 percent exemption to a qualified disabled veteran who is 100 percent disabled due to a service-connected disability.
 - 1) The veteran must have a rating of 100 percent disabled or of individual unemployability and must be receiving 100 percent disability compensation.
 - 2) The exemption will pass to the veteran's surviving spouse if the surviving spouse has not remarried, and the property was the residence homestead of the surviving spouse at the time of the veteran's death.
 - 3) The residence must remain the homestead of the surviving spouse.
 - 4) The surviving spouse of a disabled veteran, who would have qualified for an exemption under Tax Code Sec. 11.131, if the subsection had been in effect on the date the disabled veteran died, is entitled to this exemption.
- d. A partially disabled veteran is entitled to an exemption on his/her residence homestead if the homestead was donated to the veteran by a charitable organization at no cost.

NOTES:

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- 1) The exemption is equal to the veteran's disability rating and applies to all taxing units.
 - 2) For example, a 50 percent disabled veteran would receive an exemption equal to 50 percent of the appraised value of his/her homestead.
 - 3) The surviving spouse of a disabled veteran may transfer the exemption to a new homestead as long as the surviving spouse does not remarry.
- e. The surviving spouse of a member of the United States Armed Forces who is killed in action or fatally injured in the line of duty receives a 100 percent exemption, by all tax units, on their homestead property if the surviving spouse is not remarried. The surviving spouse may transfer the dollar amount of the exemption to a new homestead.
- f. The surviving spouse of a first responder killed or fatally injured in the line of duty is entitled to an exemption from taxation of the total appraised value of their residence homestead if the surviving spouse has not remarried. The surviving spouse may transfer the dollar amount of the exemption to a new homestead.

3. Optional Homestead Exemptions

- a. Any taxing unit has the option to offer:
- 1) A general homestead exemption of up to 20 percent of appraised value. This exemption has a minimum value of \$5,000 if offered.
 - 2) A 65 or older or disabled person's exemptions, or both, in any amount of \$3,000 or more.
 - 3) If school districts or counties offer optional exemptions, they are added to the mandatory exemptions these taxing units offer, with the exception that the county farm-to-market/flood control exemption does not apply if the person receives a 65 or older or disabled person's exemption.
- b. A person who is both disabled and 65 or older must choose which of the exemptions they would like to keep as they may only have one.

NOTES:

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Tax Unit	General Homestead	65 or Older Homestead	Disabled Homestead	100% Disabled Veterans' Homestead	Surviving spouse of an armed forces member killed in action or fatally injured in the line of duty and surviving spouse of first responder killed in the line of duty	Donated Homestead to a Disabled Veteran
School District	\$100,000	\$10,000	\$10,000	100% of appraised value	100% of appraised value	Exemption equal to veterans' disability rating
County	\$3,000 against farm to market/flood control tax	None	None	100% of appraised value	100% of appraised value	Exemption equal to veterans' disability rating
City	None	None	None	100% of appraised value	100% of appraised value	Exemption equal to veterans' disability rating
Special District	None	None	None	100% of appraised value	100% of appraised value	Exemption equal to veterans' disability rating

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NOTES:

4. **Appraisal Cap and Tax Ceiling:** The law provides two limitations that are related to homestead exemptions:

a. Appraisal Cap

- 1) **Appraisal Cap** limits the amount by which appraisals can increase from year to year.
- 2) The appraisal cap applies to all homes that qualify for a homestead exemption. It is mandatory for all taxing units.
- 3) With the cap, taxes can increase, but more gradually than they might if appraisal increases were not limited. A property's appraised value is usually the lower of:
 - a. market value; or
 - b. the previous year's appraised value plus 10 percent.
- 4) New improvements – the cap does not apply to value that comes from improvements made to the property. On the other hand, repairs and maintenance will not affect the cap.
- 5) There is a special provision for repair of conditions that make a home uninhabitable.

Appraisal Cap Example:

Mr. Smith has received a homestead exemption for many years. The appraised value of his property last year was \$210,000. Since January 1 of last year, he added a swimming pool and pool house with a contributory value of \$50,000. The market value of his property this year is \$285,000. What value will be listed in the appraisal records?

Calculate the 10% cap on the property value from the previous year.

$$\$210,000 \times 10\% = \$21,000$$

Add the capped value to the previous year's appraised value.

$$\$210,000 + \$21,000 = \$231,000$$

Add the value of the new improvement.

$$\$231,000 + \$50,000 = \$281,000$$

\$281,000 is less than the market value of \$285,000, so \$281,000 would be listed in the appraisal records.

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b. Tax Ceiling

- 1) **Tax ceiling** provides that taxes will never be higher than the amount of the ceiling. This is often incorrectly called a tax freeze.
- 2) The tax ceiling applies only to homes that qualify for a 65 or older or disabled person's exemption. The ceiling is mandatory for school districts and optional for cities, counties, and junior college districts.
- 3) The ceiling is usually set by the amount of taxes the person pays in the first full year the exemption is in effect. In later years, taxes can never be higher than the amount paid in the first year, no matter how much the appraisal increases. For example, if property taxes are \$1,500 a year at the time the property receives the ceiling, they can never be higher than \$1,500 (although they could be lower in some years).
- 4) Ceilings can be increased if new improvements are made after the original ceiling has been established which create a new higher ceiling.
- 5) A person who receives the ceiling can transfer a percentage of savings to a new home. The cap cannot be transferred but the owner can qualify for a new cap after having the homestead exemption for one year.
- 6) Surviving Spouses of an over 65 or disabled person may retain the ceiling if they are 55 years of age or older.

Example Calculations:

New Improvements

Property owner 1 has a ceiling of \$275.48. He builds a pool and pool house that the CAD values at \$47,500. What is the new ceiling if the tax rate is \$1.20/\$100?

Property owner 2 has a ceiling of \$1,560.98. Owner adds improvements of \$12,000. What is the new ceiling amount if the tax rate is \$1.15/\$100?

NOTES:

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Transfer of ceiling

An over 65 taxpayer wants to transfer their ceiling to their new home. The taxes on the new home would be \$7,957.00 after exemptions without the ceiling. The taxes on their former home were \$850.00 with the ceiling and \$5,300 without. Calculate the ceiling on their new home.

NOTES:

Comparison: Cap vs. Ceiling

	Appraisal Cap	Tax Ceiling
Applies to	Home that has had a general homestead exemption for at least one year.	Home that receives a 65 or older or disabled person's exemption.
What it does	Limits increases in the appraised value according to the following formula: Value will be the lesser of (1) current market value or (2) last year's appraised value plus 10 percent plus the value added by	Limits taxes to no more than the amount paid in the first year the property qualifies for the exemption. (or the amount paid in the second year if that amount is lower)
Who administers	The appraisal district calculates the cap.	The assessor calculates the ceiling.
Transfer to new home	Cap does not transfer, but owner can establish a new one after having the general homestead exemption for a year.	Percentage benefit of the ceiling can be transferred to a new home.

5. Disabled Veterans' Exemption

- a. Applies to disabled armed forces veteran, surviving spouse of a deceased disabled veteran, survivors of persons who died on active duty.

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- b. Exemption may be applied to any property the veteran owns and designates. The exemption is in addition to other exemptions.
- c. Amount of exemption varies from \$5,000 to \$12,000, depending on degree of disability.
- d. Late application provision extended to five years beginning with 2016 tax year forward.

6. Business Exemptions

- a. Tax abatement for economic development.
- b. Freeport (goods shipped out of state).
- c. Goods in transit (goods moved to another location in Texas).
- d. Business personal property up to \$2500.
- e. Mineral interests valued under \$500.
- f. Pollution control property.
- g. Stored drilling rigs.
- h. Property used/transported in interstate commerce.
- i. Cemeteries.
- j. A single business vehicle if it is owned by an individual and used partially for personal use.

7. Group/Organization Exemptions

- a. Government owned property (public property).
- b. Charitable organizations.
- c. Religious organizations.
- d. Youth development organizations.
- e. Veterans' organizations.
- f. Community housing development organizations.
- g. Various others.

F. Administration of Exemptions

1. Chief appraiser administers exemptions.

- a. Application
 - 1) Annual.
 - 2) One-time.
 - 3) No application.
- b. Deadline to apply is before May 1.

NOTES:

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- 1) Failure to timely apply forfeits the exemption for the year.
- 2) Various late application provisions provide exceptions.
- 3) Homesteads have up to two years and disabled veterans have up to 5 years after delinquency date for the year to be exempted.
- 4) Automatic grant of 65 or older exemption.
- 5) Applicants for homestead exemption must provide copies of drivers' license or personal identification certificate.
- c. Chief appraiser must act on an exemption application.
 - 1) Approve.
 - 2) Modify and grant.
 - 3) Disapprove and request more information.
 - 4) Deny.
 - 5) Notice to owner is required for modification, disapproval, or denial.
 - 6) Property owner may protest. Taxing unit may challenge.

NOTES:

G. Preparation of Appraisal Records

1. Once the preceding steps are complete, the appraisal district compiles a formal list – on paper or electronic – of the taxable property.
2. This list is called the **appraisal records**.
3. The list must meet requirements set out in Property Tax Code Section 25.02.

H. Delivery of Required Notices

1. The Property Tax Code usually requires a notice for any action changing property values or increasing owners' tax liabilities.
2. Notice of Appraised Value (Property Tax Code Section 25.19)
 - a. Notice of appraised value is the most common appraisal notice. The notice is required by the Texas Constitution
 - b. The notice must be given by May 1 or as soon as practicable (April 1 or as soon as practicable for residence homesteads).

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NOTES:

- c. The notice must be given before the property record is submitted to ARB for review.
- d. The notice must include the following:
 - 1) Previous value.
 - 2) Current value.
 - 3) Amount of exemptions.
 - 4) Notice of protest form.
 - 5) Explanation of protest procedures.
 - 6) Percentage of increase in value over 5th preceding year.
 - 7) Homestead exemption application if the appraisal district believes the owner is occupying the residence and it does not have a homestead exemption.
 - 8) Brief explanation of each total or partial exemption that is available to:
 - a disabled veteran or the veteran's surviving spouse or child;
 - an individual who is 65 years of age or older or the individual's surviving spouse;
 - an individual who is disabled or the individual's surviving spouse;
 - the surviving spouse of a member of the armed services of the United States or first responder who is killed in action or fatally injured in the line of duty.
 - 9) Statement that the Texas Legislature does not set the amount of your local taxes.
 - 10) Must contain the URL of the Department of Information Resources website containing links to each counties property tax database beginning 01/01/22.
 - 11) In counties with special panels (counties with a population of one million or more), notice includes right to a protest hearing before an ARB special panel.
- e. The notice must be delivered by May 1 or as soon as practicable (April 1 or as soon as practicable for residence homesteads).
- f. The notice must be delivered before the property record is submitted to ARB for review.

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- g. The Sec. 25.19 notice shall be added to the appraisal record for the property and posted to the appraisal district's website.
- h. The notice is required if:
 - 1) Appraised value of property has increased.
 - 2) Appraised value of property is greater than rendered value.
 - 3) Property added to appraisal roll for the first time.
 - 4) Property reappraised.
 - 5) Ownership change.
 - 6) Notice requested by property owner.
- 2. Notice of Residence Homestead Exemption Eligibility (Tax Code Sec. 25.192)
 - a. If the address for the property owner and the home are the same, the chief appraiser sends a notice that states in bold:
 - 1) 18 pt. type.
 - 2) Specific wording indicating residence does not currently reflect a residence homestead exemption and may qualify for the exemption.
 - 3) Provides filing information and indicates no fee required.
 - 4) Provides application to complete.
 - b. If owner has requested email notices, must be separate from other notices.
- 3. Notice of Certain Canceled or Reduced Exemptions (Tax Code Sec. 25.193)
 - a. This notice addresses the cancellation or reduction of an exemption for the current year.
 - 1) Sent by April 1 if owner qualified pursuant to Sec. 11.13.
 - 2) May 1 if residential property had not qualified pursuant to Sec. 11.13.
 - b. If owner has requested email notices, must be sent separately via email even if notice was also included with the 25.19 notice.

NOTES:

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4. **Special Notice Requirements:** Property Tax Code Sec. 1.07 (d) requires the following notices to be sent by certified mail.
 - a. Tax Code Sec. 11.43 (q) notice that the exemptions on a property receiving the 65 or older persons homestead exemption will be cancelled.
 - b. Tax Code Sec. 23.46(c) notice that special appraisal will be removed, and the rollback penalty imposed when land is diverted to nonagricultural use from land qualifying as agricultural under Article VIII, Section 1-d, Texas Constitution.
 - c. Tax Code Sec. 23.54(e) notice that a new application is required for open-space land appraisal.
 - d. Tax Code Sec. 23.541(c) notice of penalty for late filing of an open-space land appraisal application.
 - e. Tax Code Sec. 23.55(e) notice of a determination of a change of use of open-space land and the imposition of the rollback penalty.
 - f. Tax Code Sec. 23.76(e) notice of a determination of a change of use from timber land and the imposition of the rollback penalty.

NOTES:

Equalization Phase

1. **Key Deadlines** in the **Equalization Phase**, the ARB hears property owner and taxing unit complaints over valuations and orders changes as needed.
2. The equalization phase for most properties begins May 15 and has several key deadlines:
 - a. Submission of appraisal records per Tax Code Sec. 25.22: before May 15 or as soon as practicable.
 - b. Chief appraiser delivers notices.
 - c. Chief appraiser submits records to ARB to review.
 - d. ARB meets to begin hearings within 10 days.
 - e. Deadlines for residential property are earlier for properties that have a residence homestead exemption:
 - 1) Notices to be delivered before April 1 or as soon thereafter as practicable, per Tax Code Sec. 25.19.

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3. Filing of protests (**before May 15**)
 - a. Property owners file protests by May 15 or 30 days after the date notice was delivered, whichever is later.
 - b. Taxing units file challenges.
4. Record approval (**on or before July 20**).
 - a. ARB completes substantially all hearings and approves appraisal records.
 - b. Large appraisal districts may postpone this deadline as late as August 30.
 - c. If ARB does not approve records by July 20th, the chief appraiser must prepare and certify by July 25th an estimate of taxable value to each taxing unit in the county.
 - d. Certification: chief appraiser certifies appraisal rolls within 5 days after ARB approves records.

NOTES:

A. ARB-Appraisal Review Board

1. Citizen board
 - a. Cannot be current employees or officials of appraisal district or taxing units (in counties of 120,000 or more, some former officials and former CAD employees are barred). In counties with a population of more than 120,000, individuals are ineligible to serve if appeared, as a paid representative, before the ARB during the preceding two years.
 - b. *Effective until June 30, 2023:* ARB members in all counties are appointed by the local administrative district judge.
 - c. *Effective July 1, 2024:* Appointed by the local administrative judge in all counties with less than 75,000 in population. Appointed by the appraisal district board of directors in counties with a population of 75,000 or more.
 - d. May not owe delinquent taxes or be related to appraisers or tax consultants who appear before them.
 - e. May not be related within third degree by consanguinity or within second degree by affinity to a member of the appraisal district's BOD or the ARB.
 - f. May only serve all or part of three consecutive terms as an ARB member or auxiliary board member on the ARB.

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- e. Term length is two years. Once appointed, members cannot be removed except for certain types of misconduct or conflict of interest. Removal must be based on evidence of repeated bias or misconduct. Removal or official action finding that removal is not warranted is required within 90 days of being informed of a potential ground of removal of ARB member.
 - f. May not be employed by CAD if they have served on the ARB for the district during the preceding two years.
 - g. A property owner, tax consultant or agent may communicate with the judge about the removal of an ARB member.
 - h. ARB training courses conducted by the Comptroller's office must be completed by ARB members before they are allowed to participate in hearings. New members of the ARB must complete an 8-hour course offered by the Comptroller's office and returning members must complete a 4-hour course. These trainings may be conducted by distance learning as well as classroom. Members' main function is to conduct hearings using the Comptroller's model hearing procedures and make decisions based on evidence presented.
2. Responsibilities of the ARB
- a. Hear and decide property owner protests (written complaints about appraisals or other matters).
 - b. Hear and decide taxing unit challenges (written complaints about certain matters described later).
 - c. Correct errors in prior year appraisal rolls.
 - d. Approve appraisal records each year.
3. Communications with the ARB
- a. ARB members may not discuss specifics of a pending protest except in a hearing.
 - b. ARB members may not communicate with another person about property under protest.

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- c. Any material exchanged between the property owner and the appraisal district at a hearing concerning a protest may include materials preserved on a portable device designed to maintain an electronic, magnetic, or digital reproduction of a document or image if that material will be offered or submitted to the ARB. If the appraisal district uses audiovisual equipment at a hearing on a protest, the district must provide similar equipment for use by the property owner or their agent.

NOTES:

C. Steps in the Equalization Phase

1. Chief appraiser submits records to the ARB.
2. Property owners may file protests.
3. Taxing units may file challenges.
4. ARB sends notices of hearings.
5. ARB conducts hearings and orders changes.
6. ARB approves records when substantially all protests have been heard.
7. Chief appraiser certifies the appraisal roll to each taxing unit.

D. Grounds for Property Owner Protest

1. Excessive appraisal.
2. Unequal appraisal.
3. Situs.
4. Denial of exemptions.
5. Denial of special-use appraisal.
6. Determination of a change of use on previously qualified agricultural or timber land.
7. Determination of ownership.
8. Failure of the ARB or chief appraiser to send required notices.
9. Modification or denial of temporary disaster exemption and determination of the appropriate damage assessment rating for property subject to temporary disaster exemption.
10. Any other action that applies to and adversely affects the owner.

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NOTES:

E. Grounds for Taxing Unit Challenges

1. Exclusions of property from the records.
2. Grant of any type of exemption.
3. Determination of special use appraisal.
4. Failure to identify the taxing unit as one in which a particular property is taxable.

F. Approval and Certification

1. ARB must finish substantially all of its hearings by July 20th.
2. ARB must approve the appraisal records.
 - a. By July 20.
 - b. Provided value of property with unresolved protests is 5 percent or less of the value of other property.
 - c. If they cannot certify by July 25, the CA must prepare an estimate for each participating taxing unit.

The ARB must approve the appraisal roll by July 20 of each year. However, if pending protests amount to 5 percent or less of all other value for the year, the ARB can certify the roll before completing scheduled hearings. Appraisal districts with populations of 1 million or more may postpone this deadline until August 30 and allow approval with up to 10 percent of value still under protest.

3. ARB approval creates appraisal roll.
4. Appraisal roll certified and sent to each taxing unit within 5 days of ARB approval.
 - a. Chief appraiser's duty.
 - b. Each roll contains properties within the taxing unit.
 - c. The taxing unit's appraisal roll is the basis for its tax roll.

G. Post ARB Appeals

1. ARB orders can be appealed by a suit in district court.
2. ARB orders can be appealed through **binding arbitration** if:
 - a. Request is filed no later than 60 days after the date the owner receives the ARB order.

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- b. The property qualifies as a **residence homestead regardless of value or any property valued at \$5 million or less.**
 - c. The only matters at issue are the value of the property or unequal appraisal.
 - d. The owner does not owe delinquent taxes.
 - e. The owner must pay a deposit that varies depending on the type and value of the property. The minimum is \$450 for a homestead valued at less than \$500,000, and the maximum is \$1,550 for a non-homestead property valued is more than \$3,000,000 but less than \$5,000,000.
3. ARB orders determining a protest can be appealed to the State Office of Administrative Hearings **(SOAH) if the appraised value of the property is more than \$1 million.** A filing fee must be paid in order to appeal. This applies only to an appeal of the appraised or market value made by an appraisal review board in connection with real or personal property but **does not include industrial property.**

NOTES:

Complete Review Questions:

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Review Questions: Property Tax Administration

1. An Appraisal District is:

- a. branch of county government.
- b. an independent political subdivision.
- c. an agency created by local taxing units.
- d. a state agency.

2. The Appraisal Review Board:

- a. approves local optional exemptions.
- b. is responsible for discovery of all taxable property in the district.
- c. approves the taxing unit tax roll.
- d. approves ARB orders by majority vote of members present.

3. The appraisal district budget must be approved by:

- a. ARB.
- b. chief appraiser.
- c. appraisal district board of directors.
- d. taxing units participating in the district.

4. The taxing unit tax roll must be approved by the:

- a. chief appraiser.
- b. taxing unit governing body.
- c. tax assessor.
- d. ARB.

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- 5. Who must approve optional local tax exemptions?**
- a. tax assessor
 - b. taxing unit governing body
 - c. chief appraiser
 - d. ARB
- 6. An exemption determines the:**
- a. market value.
 - b. assessed value.
 - c. taxable value.
 - d. residual value.
- 7. If a taxing unit collects less than its tax levy, then the unit must first meet its:**
- a. last year's budget.
 - b. operational costs.
 - c. salary obligations.
 - d. debt obligations.
- 8. What is the school tax levy for a residence with an appraised value of \$280,000, it qualifies for the mandatory over 65 exemptions with a tax rate of \$1.10?**
- a. \$1,254.00
 - b. \$1,364.00
 - c. \$1,870.00
 - d. \$2,530.00
- 9. Under normal circumstances, the state Comptroller's Property Tax Assistance Division conducts a property value study for a school district:**
- a. Annually.
 - b. Biannually.
 - c. Semiannual.
 - d. Biennially.

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10. How long after a property owner receives ARB orders may an appeal through binding arbitration be filed?

- a. 30
- b. 60
- c. 90
- d. 120

11. Exemptions are administered by:

- a. Taxing units.
- b. Assessor/Collector.
- c. CAD Board of Directors.
- d. Chief Appraiser.

12. To be publicly recognized a deed must be:

- a. posted at the door of the courthouse.
- b. it is not necessary to be publicly recognized, I own the property.
- c. recorded at the courthouse.
- d. given to the Appraisal District.

13. What date starts the Assessment Phase of the Tax Cycle?

- a. January 1
- b. July 1
- c. May 15
- d. July 25

14. What date does the ARB approve the appraisal records?

- a. May 15
- b. July 20
- c. July 25
- d. October 1

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15. Which of these properties is not exempt from taxes?

- a. The furniture in a State Representative's office.
- b. A copier leased by a church.
- c. School
- d. Church

16. How often does the state Comptroller's Property Tax Assistance Division conduct a property value study?

- a. Annually
- b. Biennially
- c. On request of taxing units
- d. On request of legislature

17. In which phase of the Tax Cycle are exemptions approved?

- a. Appraisal
- b. Equalization
- c. Assessment
- d. Collection

18. In which phase of the Tax Cycle are refunds processed?

- a. Appraisal
- b. Equalization
- c. Assessment
- d. Collection

19. Which of the following activities occur in the Assessment Phase?

- a. Tax roll certified.
- b. Taxing entity governing body meets only for regular meetings.
- c. Tax statements are mailed.
- d. Refunds are processed.

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20. What does the appraisal cap do?

- a. Creates a tax freeze on school taxes.
- b. Limits the amount by which appraisals can increase from year to year on homesteads.
- c. Limits appraisal increases to 20%.
- d. Allows new improvements to escape taxation.

21. What does the tax ceiling do?

- a. Provides taxes will never be higher than the amount of the ceiling for 65 or older and disabled person's homestead only.
- b. Provides tax relief for all homestead properties.
- c. Puts roofs on homes for senior citizens.
- d. Limits the amount of appraisal increases.

NOTES:

Section Six:
Texas Property Tax System
Property Tax Appraisal
Course 102

Class III and IV: 5 Questions

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A. Definitions

<i>Anticipation</i>	<i>An economic principle that states value is derived from future expected benefits.</i>
Appurtenant	ties to the recipient's ownership. Both prescription and necessity easements are also appurtenant easements.
Assemblage	The purchase of adjacent parcels of land to assemble a larger tract of land.
Balance	Economic principle that property will have more value if the surrounding area provides complementary property uses.
Change	An economic principle that the market is in a continual state of change.
	Recent sales, cost, and income information.
Comparative Data	Recent sales, cost, and income information.
Competition	Substantial profits will attract competition and increase competition. This may lead to ruinous competition.
Conformity	An economic principle stating that a property value will rise to its highest possible level if architectural styles are relatively homogeneous and surrounding land uses are compatible with its use.
<i>Consistent Use</i>	<i>The improvements on the site are the same as the highest and best use as the land. If the use is not consistent, the building is a "burden on the land" and has no value.</i>

NOTES:

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Consumptive Use	<i>When the probable use is by the purchaser, it may be called consumptive use. This is typical of residential usage and the Market Approach is usually the best indicator of value as it directly reflects the actions of the participants in the market. Example: residential property.</i>
Contribution	<i>An economic principle that an improvement value must be measured by the market, not by the cost.</i>
Encumbrance	Any limitation that affects property rights and value.
General Data	Forces and trends affecting value at national, regional, and neighborhood levels.
In Gross	the right to use a property for a specified purpose, such a utility easement.
Increasing and Decreasing Returns	The four agents of production, land, labor, capital (improvements) and Management (coordination) must be in balance for a property to produce optimum returns.
Investment Use	<i>Properties that are purchased for their income stream. The Income Approach is the best indicator of value for this type of property. Example: retail rental property.</i>
Necessity Easement	when a seller divides land and creates inaccessible parcels.
Prescription Easement	Arises when a non-owner openly and continuously uses someone else's property for ten years or more.

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Productive Use	<i>Productive use properties are purchased for their ability to produce a product and are usually owner occupied. The Cost Approach is the best method to appraise these properties. Example: manufacturing facility</i>
Progression	An economic principle that an inferior property value is increased by the proximity to better properties of the same use class. $PRD < 1.00$
Regression	An economic principle that a superior property value is decreased by the proximity to inferior properties of the same use class. $PRD > 1.00$
Riparian Right	Allows the holder access to or use of a body of water.
Specific Data	Characteristics of property site and improvements.
Substitution	<i>An economic principle that no one will pay more for a property than they would for an acceptable substitute. Replacement Cost New usually sets the upper limit of cost.</i>
Supply and Demand	Also called "Elasticity" in the market. The Mass Appraisal Model reflects supply and demand in the market.
Surplus Productivity	Income from a property after the four agents of production (land, labor, capital and management) have been paid. This income is attributable to the land.

NOTES:

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B. Overview of the Three Approaches to Value

NOTES:

Sales Comparison (Market) Approach	
Most Effective Use	<i>Consumptive.</i>
Strengths	<i>Reacts directly to the marketplace.</i>
	Based on actual sales of comparable properties.
	Provides defensible value estimates.
Weaknesses	<i>Requires an active market.</i>
	Does not value land and improvements separately.
	Does not value unique properties.
Steps to the Sales Comparison Approach	
	Define the appraisal problem.
	Collect and analyze the data.
	Select the appropriate units of comparison.
	Make reasonable adjustments based on market data.
	Apply the data to the subject to arrive at a final estimate of value.
Additional Market Approach Methods	Gross Rent/Income Multipliers.
	Land Development.
	Stock & Debt Method.

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Cost Approach	
Most Effective Use	<i>Productive.</i>
Strengths	<i>Values land and improvements separately.</i>
	Values unique properties.
	Can adjust for condition and/or obsolescence.
Weaknesses	<i>Requires Market or Income Approach to value land.</i>
	Replacement or Reproduction Cost New?
	Calculation of depreciation.
Steps to the Cost Approach	<i>Estimate site value as if vacant at the highest and best use.</i>
	Estimate total cost new for improvements including direct, indirect and entrepreneurial profit.
	Estimate total depreciation for physical depreciation, functional and external obsolescence.
	Deduct depreciation from cost new of improvements.
	Estimate total cost new for amenities less depreciation.
	Add value of depreciated improvements, depreciated amenities and site value to arrive at value by the Cost Approach.

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Income Approach	
Most Effective Use	<i>Investment Use.</i>
Strengths	<i>Direct relationship between value and income produced.</i>
	Based on investment strategy for investment property.
	Values special use property such as ag, timber, etc.
Weaknesses	<i>Property must be capable of producing enough income to attract an investor.</i>
	Requires financial information such as financing, interest rates, property income and expenses.
	Does not value land and improvements separately.
Steps to the Income Approach	Estimate Potential Gross Rent (PGR).
	Subtract Vacancy and Collection Loss (V&C).
	Add Secondary or Miscellaneous Income.
	Subtract allowable Operating Expenses.
	Select an appropriate capitalization rate.
	Divide the Net Operating Income by Capitalization Rate for Value

NOTES:

C. Appraisal Records

1. Land Descriptions.
 - a. Rural land.
 - b. Urban land.
 - c. Measurement (size).

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- d. Topography.
- e. Location.
2. Improvement Description.
 - a. Construction type.
 - b. Construction quality.
 - c. Measurement (area).
 - d. Additives.
 - e. Depreciation (Physical, Functional & External).
3. Property Records.
 - a. Legal description.
 - b. Lot and Block.
 - c. Metes and Bounds.
 - d. Rectangular survey.

NOTES:

D. Ownership of Property

1. When a person owns property, the person has six basic rights.
2. These are referred to as the **Bundle of Rights**:
 - a. **S** The owner has the right to **sell** the property.
 - b. **L** The owner can **lease** or rent the property.
 - c. **U** The owner can **use** the property.
 - d. **G** The owner can **give** the property away.
 - e. **E** The owner can **enter** the property.
 - f. **R** The owner can **refuse** to exercise any of these rights.
3. Governmental restrictions limit the full exercise of the bundle of rights. There are many types of government restrictions affecting the use and enjoyment of property. Four are typical:
 - a. **P Police Power**- Government has the right to regulate uses of property to ensure public safety, health, and well-being.
 - b. **E Escheat** – Ownership of property may pass to the state once there are no known heirs or owners.
 - c. **T Taxation** – Government may tax the property to support governmental activities.

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- d. **Eminent Domain** – Government may take away ownership of the property for a public use if it pays the owner just compensation.
- 4. Private Restrictions – often referred to as encumbrances or deed restrictions. Limit the full exercise of the bundle of rights.
 - a. Liens and judgments- the property is held liable and may be sold to pay a debt.
 - b. Covenants and restrictions written into the various conveyances of the property.
 - c. Easements, rights of way, leases – these are circumstances in which some other person acquires some right of use of the property.
 - d. Riparian rights - rights for access to or use of a body of water.

NOTES:

E. Estates in Property

- 1. Estates in property refer to the legal system of classifying ownership rights and interests in property.
 - a. **Fee Simple Estate -- When a person has full ownership of the property**, including the right to determine who will own it after the person's death, that person has a **fee simple estate**. A fee simple estate lasts for an indefinite period because the owner may hold it for life and pass it to his or her heirs. The owner of a fee simple estate has the full bundle of rights, subject to applicable governmental and private restrictions.
 - b. **Determinable or Conditional Fee Simple Estate** – This is a drastic form of use restriction. The owner has a fee simple estate as long as the property is used for permitted purposes, but if the use is changed to a different purpose, ownership automatically passes to someone else.
 - c. **Life Estate** – One person has the right to use and enjoy the property for life. At the end of the life (usually of the person who is using and enjoying the property) ownership passes to another person, called the remainderman.
 - d. **Leasehold** – A leasehold estate gives the lessee (tenant) the right to use and enjoy the property for a specific period. The tenant has a leasehold estate. The landlord has the remaining fee simple estate, subject to the rights of the leasehold.

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- e. **Possessory Interest** – A possessory interest is a right to use or possess property that does not result from a deed or lease. Licenses, franchises, landing rights, and similar transactions can create possessory interests. An example would be a privately-owned ski resort located on government land.
- f. **Trusts** - In a trust, one person (the trustee) holds legal title to the property while another person (the beneficiary) has the right to use the property.

NOTES:

F. Value Concepts

1. In appraisal, value refers to the monetary worth of the future benefits that will be obtained from the ownership of property.
2. Value is estimated; it can never be precisely known.
 - a. **Value in Use** – the benefits that accrue to the owner from use and enjoyment of the property.
 - b. **Value in Exchange** – the benefits that will accrue from selling the property or exchanging it for another property. Market value is a type of value in exchange.
 - c. **Cost, Price, and Value**
 - 1) Cost refers to the amount of money, time, and labor spent to acquire a property.
 - 2) Price is the cost of property that is purchased. It means the amount of money spent to acquire the property if the property was purchased.

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G. Market Value

1. Value and price are not synonymous. Value is the monetary worth of real estate or personal property to buyers and sellers as of a particular date.
2. Cost and price indicate what one set of buyer and seller thought the property was worth as of a particular point in time. They do not necessarily indicate what people in the market are or were most likely to do as of that date.
3. Most property tax appraisals are based on market value. Market value is a specific type of value in exchange.
4. Market value has been defined in Property Tax Code Section 1.04(7) as:

The price at which a property would transfer;

- a. For cash or its equivalent; Under prevailing market conditions;
- b. Assuming the property is exposed on the market for a reasonable time for the seller to find a purchaser;
- c. Assuming both seller and purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use;
- d. Assuming both the seller and purchaser seek to maximize their gains;
- e. Assuming neither seller nor purchaser is in a position to take advantage of the exigencies of the other.
- f. The IAAO has a slightly different definition that is used for other appraisal purposes, but the principles are the same.

H. Mass Appraisal Concepts

1. Accepted appraisal practice is an orderly set of steps that eliminate bias and enable testing.
2. Appraisal Process Steps:
Ideally three (3) approaches used on every property. Not typical or required to have all three approaches.
The first step in mass appraisal is to analyze the market.

Step 1: Definition of the Problem

NOTES:

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The appraiser identifies the property to be appraised and the scope of work that is needed.

Step 2: Preliminary Survey and Planning

In this step an appraiser:

- a. Determines what data will need to be collected.
- b. Decides which approach to value will probably be the most appropriate.
- c. Assigns time and resources.

Step 3: Data Collection and Analysis

In this step, the appraiser gathers and analyzes all of the types of data that will be needed for the appraisal.

- a. **General data** – forces and trends affecting value at national, regional, neighborhood levels.
- b. **Comparative data** – recent sales, cost, and income information.
- c. **Specific data** – characteristics of the subject site and improvements
- d. Methods to gather data include:
 - 1) Research in publications.
 - 2) Questionnaires and interviews.
 - 3) Site inspections.
 - 4) Record information on property record form.
 - 5) Mass appraisal – development of value models.

Step 4: Application of the Approaches to Value (Discussed in the Next Section)

In this step, the appraiser applies the various methods and techniques of valuation to produce (ideally) three indicators of the value of the property.

- a. **Cost approach** – What would it cost to construct a replacement property?
- b. **Comparable sales approach** – What do recent sales of similar properties indicate that the value should be?
- c. **Income approach** – What would an investor pay for this property given its income and operating expenses?

Step 5: Reconciliation and Final Estimate

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In this step, the appraiser reviews the work done and selects a final value estimate.

Step 6: Appraisal Report

In this step, the appraiser documents the work done so that the client and others using the appraisal can fully understand the basis for the appraiser's conclusions.

4. **Mass Appraisal** – The process of valuing a universe of properties as of a given date using standard methodology, employing common data, and allowing for statistical testing.
5. **Accurate Appraisal** is an appraisal that comes close to 100% of fair market value.
13. **Uniform Appraisal** is an appraisal that does not treat one property or class of properties differently from any others.

I. Building and Using Value Schedules

1. The three (3) basic steps of schedule building:
 - a. Develop property categories.
 - b. Separate sale prices into land and improvement values adjusting each for time and additives.
 - c. Determine typical values per unit of measure.
2. Keys to Using Value Schedules:
 - a. Based on Categories (Classification).
 - b. Additive or adjustment schedules.
 - c. Depreciation schedules.
 - d. Requires periodical updating.
3. Two Standards that a Classification System Must Meet to be Valid:
 - a. Every property must fit into a class.
 - b. No property can fit into more than one class.
4. Value schedules require adjusting a particular property for depreciation and unique features.

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5. Fundamental to schedules used in mass appraisals are good classification systems.
6. Value schedules show typical value per unit of measure. In building a schedule for use in mass appraisal, appraisers use typical values per unit of measure developed from local market data.

J. Calculating Ratios

1. Appraisal to Sale Ratios: (**FORMULA ALERT**)

Appraised Value

Sale Price = Appraisal to Sale Ratio

Example: Appraised Value = \$130,000
Sale Price = \$162,500 = .90

2. **IAAO standard on ratio accuracy:**

.90 – 1.10 or 90% - 110%

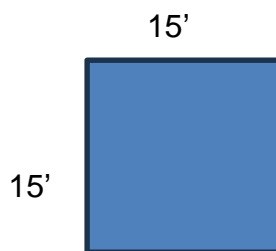
Comptroller required ratio = 0.95-1.05

3. Very low ratios (60%) or very high ratios (120%) generally result from poor classification systems.
4. Value schedules are based on classifications.

K. Basic Calculations in Appraisal Calculating Area:

1. The area of a SQUARE is base time's height (length x width):

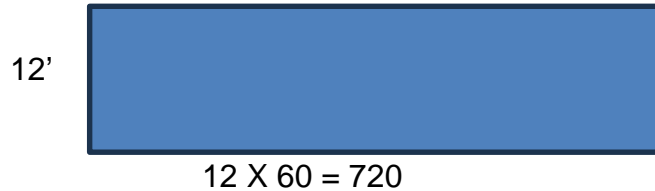
Base X Height - 15 X 15 = 75



NOTES:

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2. The area of a RECTANGLE is base times height (length x width):

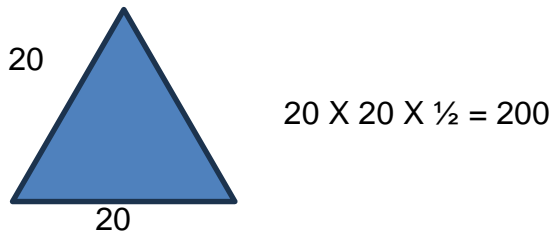


3. The area of a PARALLELOGRAM is base x height:

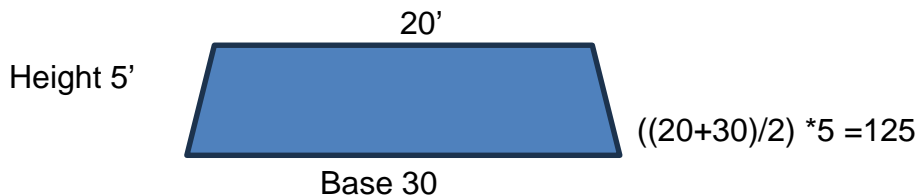


Squares and rectangles are parallelograms.

4. The area of a TRIANGLE is one-half of base x height:

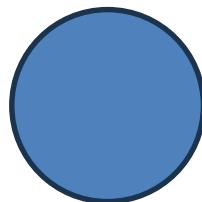


5. To find the area of a TRAPEZOID, average the parallel sides and multiply the average times the height:



6. The area of a CIRCLE is "pi" times the radius squared. "Pi" equals 3.1416.

Diameter = 20, Radius = 10-----
 $3.1416 \times 10 \times 10 = 314.16$

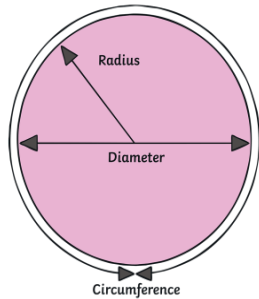


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Diameter is the distance across the circle, radius is $\frac{1}{2}$ the diameter.

7. To find the area of a SECTOR OF A CIRCLE, divide the angle of the sector by 360 and multiply the result by the area of the total circle:



Circle with 10' radius.

$$3.1416 \times 10 \times 10 = 314.16$$

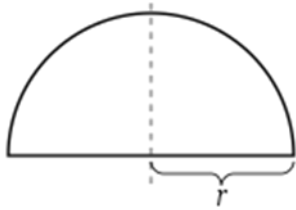
(total area)

$$45 / 360 = .125$$

$$.125 \times 314.16 = 39.27$$

(area of sector)

8. To determine the area of $\frac{1}{2}$ of the circle divide the above total area of the circle by 2 (multiply by 0.50).



Diameter divided by 2 equals radius

$$10 / 2 = 5$$

Radius squared

$$5 \times 5 = 25$$

Radius squared times pi

$$25 \times 3.1416 = 78.54$$

Area of full circle divided by 2

$$78.54 / 2 = 39.27$$

Complete review questions

NOTES:

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Review Questions

1. **Which of the following is most likely to be a market-value transaction?**
 - a. Samantha buys a house on a contract for deed.
 - b. Mrs. Williams sells a house to a long-time employee upon her retirement..
 - c. A large chain of convenience stores purchases the last available commercial corner in the neighborhood.
 - d. Jane buys a property shortly after the block next door is re-zoned for commercial use.

2. **In a declining neighborhood, a new townhome development replaces a block of owner-occupied houses. Which of the following is the most probable result?**
 - a. Land values will decline.
 - b. Rents will decline.
 - c. Investors will become reluctant to purchase property in the area.
 - d. Land values will increase.

3. **Mark purchased a house and lot for \$150,000. He paid \$15,000 to renovate the kitchen, and another \$12,000 for paint and small repairs. After repairs, the house sold for \$200,000. What economic principle explains the difference between the cost of repairs and the increase in the sale price?**
 - a. Contribution.
 - b. Conformity.
 - c. Supply and demand.
 - d. Balance.

4. **Which of the following best explains the bundle of rights?**
 - a. No property owner can give up one right in property without giving up others.
 - b. Total ownership of property consists of owning a number of distinct and separable rights.
 - c. Property owner's rights cannot be restricted.
 - d. Individuals always share property ownership with government.

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5. **The general term for a restriction on the buyer's rights that is built into a deed is:**
- Easement.
 - Covenant.
 - Escheat.
 - Encumbrance.
6. **What should a property owner file to report the condition and value of their home to the appraisal district?**
- An application for a homestead exemption.
 - A copy of the blueprint and abstract.
 - A rendition.
 - A request to appear before the ARB.
7. **Depreciation refers to an improvement's loss in value:**
- because of changes in the surrounding area.
 - because of physical defects.
 - from all causes.
 - because it is out of style.
8. **The income approach would produce the most accurate appraisal of which of the following properties?**
- A single-family residence in a new subdivision.
 - A lot in an area recently re-zoned to allow commercial development.
 - A house built in the late nineteenth century and recently declared a historic landmark.
 - A small strip center near a residential neighborhood.

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9. The market approach would produce the most accurate appraisal of which of the following?

- a. A private tennis club.
- b. A small plant where paving bricks are manufactured.
- c. A vacant lot in a downtown area.
- d. A mid-sized ranch in a rural county.

10. The cost approach would produce the most accurate appraisal of which of the following?

- a. A single-family residence in a built-out subdivision with an active market.
- b. A duplex in a mixed-use neighborhood.
- c. A company that manufactures trash bags.
- d. A commercial vacant lot on a major highway in the city limits.

11. Which type of data is characteristic of the subject site and improvements?

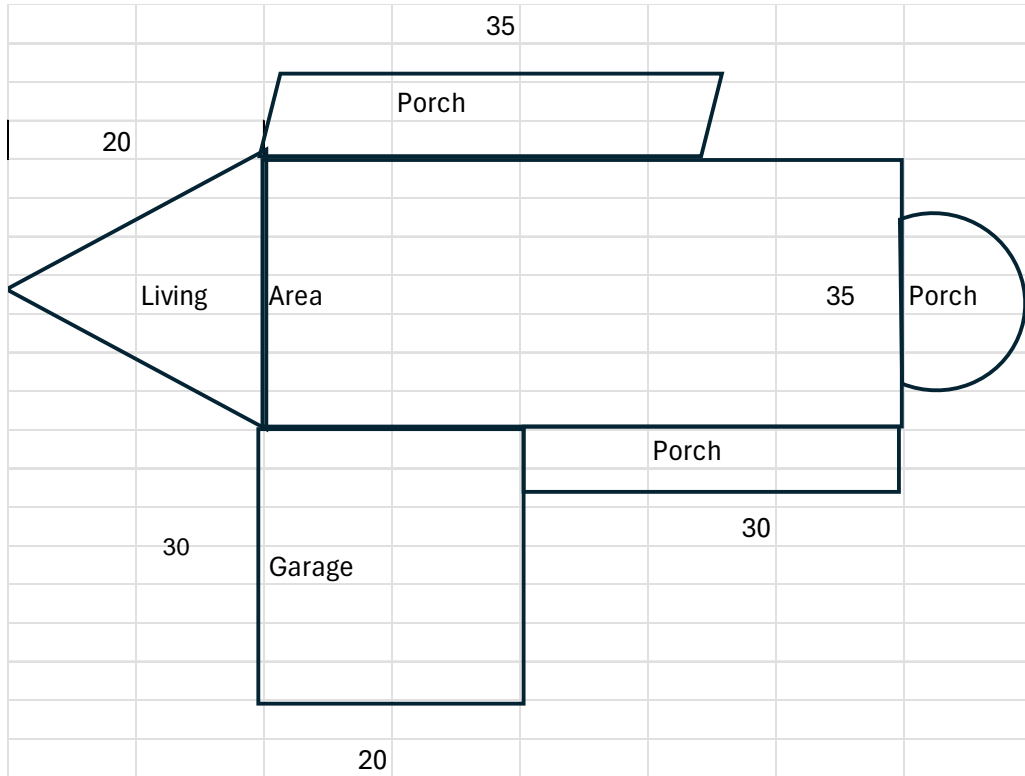
- a. General.
- b. Comparative.
- c. Specific.
- d. Regional.

12. What is the purpose of an appraisal?

- a. Mortgage loan.
- b. Protest taxes.
- c. Produce a logical and believable conclusion concerning the value of an item.
- d. Estimate a value for property taxes.

13. Using the information and measurements provided below, calculate the square footage of the improvement of this property.

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Front porch – 7' deep

Rear Porch – 10' deep

Semi-Circle Porch – 20' Diameter

NOTES:
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Section Seven: Appraisal of Real Property Cost Approach to Value

Class III: 19 Questions
Class IV: 23 Questions

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A. Four Cost Approach Methods

1. Replacement Cost New Less Depreciation
2. Reproduction Cost New Less Depreciation
3. Historical Cost
4. Trended Historical Cost

B. Major Economic Principles Underlying the Cost Approach:

1. **Principle of Substitution** - Market value of a property tends to be set by the cost of acquiring a fully comparable substitute property, assuming no costly delay in acquisition. Therefore, Replacement Cost New (RCN) tends to set the upper limit of value.
2. **Principle of Contribution** – The value of any improvement to a property is measured by the amount it contributes to the property, not by the cost.
3. **Law of Increasing and Decreasing Returns** – Increments of the agents of production will add greater value up the point when the market has no demand (over-improvement or oversupply), or the costs become prohibitive, and the market will not bear the cost.
4. **Principle of Anticipation** - Value is created by what potential buyers expect as to future benefits.

C. Steps to the Cost Approach

1. ***Estimate the land (site) value as if vacant and available for development to its highest and best use).***
2. Estimate the total cost new of the improvements as of the appraisal date, including direct costs, indirect costs, and entrepreneurial profit from market analysis.
3. Estimate the total amount of depreciation attributable to physical deterioration, functional obsolescence and external (economic) obsolescence.

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4. Subtract the total amount of depreciation from the total cost new of the primary improvements to arrive at the depreciated cost of improvements.
5. Estimate the total cost new of any accessory improvements and site improvements.
6. Then, estimate and deduct all depreciation from the total cost new of these improvements.
7. Add site value to the depreciated cost of the primary improvements, accessory improvements, and site improvements, to arrive at a value indication by the cost approach.

NOTES:

D. Terms Associated with the Cost Approach

Breakdown Method	A method that divides depreciation into all the various components for the building.
<i>Comparative Unit Method (PSF)</i>	<i>A cost method most often used in Mass Appraisal. Replacement Cost New is based on square foot using cost and/or market approach schedules.</i>
<i>Consistent Use</i>	<i>The improvements on the site are the same as the highest and best use as the land. If the use is not consistent, the building is a "burden on the land" and has no value.</i>

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Direct Cost	<i>The labor, materials and profit to construct an improvement. The "bricks and sticks". Also called fixed or hard cost.</i>
Entrepreneurial Profit	<i>An amount above the actual cost to compensate the developer for the contribution to the project and associated risk.</i>
External Incurable Depreciation	Loss of value to an improvement due to sources outside the subject property line. Examples, traffic congestion, water treatment plant, downwind of a cattle feed lot, etc. <i>Always considered incurable.</i>
Fixed Costs	<i>Costs that remain static such as labor, materials and supplies. Also call direct or hard costs.</i>
Fixtures	Personal property that has been attached to the real estate in a way that removing the personal property would damage the real estate, is it required to use the real property or if the intent of the owner were to make the personal property part of the real estate. The personal property is now part of the real estate.
Forecasting	Developing an opinion of value of land based on similar improved properties and their total sale prices.
Functional Curable Obsolescence	Functional Obsolescence that is economically feasible to cure.
Functional Incurable Obsolescence	Functional Obsolescence that is not economically feasible to cure. While it may be physically possible to cure the problem, the market will not recognize the cost to cure in a future sale or rental income.

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Functional Obsolescence	A loss in value due to changes in market standards or preferences resulting in an inadequacy or super adequacy in the structure. Ex. Lack of modern equipment, wasteful floor plan, poor room sizes, etc. May be curable or incurable.
Highest & Best Use	The most profitable use of a tract of land over the longest period of time.
<i>Historical Cost</i>	<i>The actual cost of an improvement at the time of construction.</i>
Inadequacy	A deficiency in the structure that creates a loss in value
<i>Indirect Cost</i>	<i>Costs such as permitting, engineering, architect's fees and entrepreneurial profit. Also called variable or soft costs.</i>
Physical Deterioration	A loss in value due to physical wear and tear on improvements
Physical Incurable Long Lived Depreciation (PILL)	Physical depreciation on the "bone structure" of the improvements. These are components such as framing, foundation, insulation, wiring, plumbing pipes, etc.
Physical Lump Sum Method	This method uses either the actual or effective age for the building and divides by the economic life to obtain a total of all estimated physical depreciation.
Physical Curable Short-Lived Depreciation (PCSL)	Items that have a life that is less than the remaining economic life of the improvements that are broken and need to be replaced immediately. Items that are broken like water heaters, HVAC, repairs or other items that are at the end of their useful life.

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Physical Incurable Short Lived Depreciation (PISL)	Items that have a life that is less than the remaining economic life of the improvements that are not completely worn out or broken. Examples, roof with a 20-year life that is 5 years old, carpet with a 10-year life that is 8 years old. These items are depreciated on an age/life basis.
<i>Quantity Survey Method</i>	<i>A method of cost that includes the count and cost of every board, nail, etc., to construct an improvement. Rarely used in Mass Appraisal.</i>
<i>Replacement Cost New (RCN)</i>	<i>The cost, including all direct and indirect costs, that would be incurred to construct an improvement having the same utility as the subject. Replacement Cost eliminates all functional obsolescence from the subject in the cost estimation.</i>
<i>Reproduction Cost New (RCN)</i>	<i>The cost of constructing a replica of the subject improvements, including all functional obsolescence, using the same materials, construction standards, design and quality of workmanship.</i>
Site Improvements	Improvements made TO the land, not ON the land, such as utilities, grading, sidewalks, curbs and gutters.
Super adequacy	A property that has an excess or greater quality not recognized by the market. Excess insulation is an example.
<i>Trended Historical Cost</i>	<i>The historical cost of an improvement that is adjusted using an index to reflect today's cost including inflation. This is a form of Reproduction Cost New.</i>

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<p><i>Unit-in-Place Method</i></p>	<p><i>A cost method that estimates value on specific components such as walls, foundation, roofing on a per unit basis and these values may be summed to estimate the total value of the improvement. This method is more accurate than the Comparative Unit Method, particularly when materials of significantly different quality are used in a single improvement. Unit-in-Place is not suitable for Mass Appraisal.</i></p>
<p>Variable Costs</p>	<p>All other costs associated with the project, also called Indirect or soft costs.</p>

NOTES:

E. Highest And Best Use

That use which will produce the highest return to the land over a given period of time.

1. Tests of Highest and Best Use (HBU) – **Four-part test**
 - a. Must be physically possible.
 - b. Legally permissible.
 - c. Financially feasible.
 - d. Maximally productive.
2. Land must be valued as is vacant and available for development to the HBU. If the improvements are consistent with the HBU, the appraiser will value the property as improved.
3. If the improvements are not consistent with the HBU, the appraiser must test to determine value. Three methods to determine.
 - a. Estimate the value of the property with the current improvements and assume continuation in existing use. (Zoning may dictate current use.)
 - b. Estimate the value of the property as vacant, subtracting the cost to remove the current improvements.
 - c. If the current improvements can be modified to the current HBU, estimate the value of the property as if modified, subtracting the cost to convert the current improvements.

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4. The test above that produces the highest value is the highest and best use.

Special Use Valuation, such as Ag, Timber, Park and Airport Access Land ignore HBU as instructed by the Tax Code and are appraised by the Income Approach.

NOTES:

F. Land Value Estimate

1. **Land is appraised by market approach or income approach.**
2. **Comparable Sales Approach**
 - a. Select sales of comparable property.
 - b. List sales and subject properties.
 - c. Adjust sales to the subject property.
 - d. Estimate subject property land value based on adjusted value of comparable properties.

3. **Alternative Market Approaches for Land Valuation**

- a. Allocation by Abstraction:

Property Value – Improvement Value = Land Value
FORMULA ALERT

Sale price of property – RCNLD = Land Value
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- b. Allocation by Ratio:

Property Value X (land/property ratio) = Land Value
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- c. Direct Capitalization: Ground Rent/Rate = Value
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- d. Land Residual Technique:

Land Income/Discount (Return ON) Rate
FORMULA ALERT

G. Improvement Valuation

1. Estimate cost using one of the four methods below:
 - a. **Replacement Cost New Less Depreciation** - The cost, including all direct and indirect costs, that would be incurred to construct an improvement having the same utility as the

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subject. Replacement Cost eliminates all functional obsolescence from the subject in the cost estimation.

- 1) Methods include Unit-in-Place, Comparative Unit and Market based cost. ***Comparative Unit is the most common method used in Mass Appraisal.***
- 2) Sources for Replacement Cost
 - Published Cost Manuals such as Marshall Valuation Service and RS Means may be used for initial cost data.
 - **This cost should be adjusted to the local market by using the Market Based Cost Estimate below.**
- 3) Example:
2,000 sf building X \$75.50 psf = \$151,000

b. Market Based Cost Estimate

- 1) The goal is to find the estimate of the replacement cost new of improvements using sales.
- 2) It is necessary to use current sales in areas that have sufficient land sales to estimate accurate land values.
- 3) Properties should have been inspected recently to correctly estimate depreciation.
- 4) Market comparisons to estimate the contributory value of additives (improvements that are not part of the improvement schedule) need to be accurate.
- 5) Assuming that all this information is available, this is the best method to check national cost schedules against the local market.

Example on next page:

NOTES:

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Sale Price of improved property	\$285,000
Sale date	12/30/2023
Percent Good	70%
Value of additives 01/01/2024	\$15,000
Land Value 01/01/2024	\$40,000
Living Area	2,500 SF

NOTES:

Solution:

Sale Price	\$285,000
Time Adjustment (None)	X <u>1.00</u>
Time Adjusted Sale Price	\$285,000
Subtract Land Value	- 40,000
Subtract Additive Value	- <u>15,000</u>
RCNLD	\$230,000
Divided by percent good	<u>0.70</u>
RCN	\$328,571
Divided by square footage	<u>2,500</u>
RCN per square foot (PSF)	\$ 131.43

- c. **Reproduction Cost New Less Depreciation** - The cost of constructing a replica of the subject improvements, including all functional obsolescence, using the same materials, construction standards, design and quality of workmanship. The calculation is the same as Replacement Cost New except reproduction cost is used not replacement cost.
- d. **Historical Cost** - The actual cost of an improvement at the time of construction.
- e. **Trended Historical Cost** - The historical cost of an improvement that is adjusted using an index to reflect today's cost including inflation. Appraisers use known cost indexes such as Marshall & Swift, Turner Construction and ENR BCI. *Trended Historical Cost is a form of Reproduction Cost New.*

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NOTES:

Example – A frame home cost \$16,000 when it was constructed in 1970. What would the cost of this same home be today?

Current Year Cost Index 3152.7
Historical Year Cost Index (1970) 470.6 = 6.6993
multiplier

Historical Cost - \$16,000 X 6.6993 multiplier = \$107,189
Trended Historical Cost or the cost today to reproduce the same home. Depreciation or percent good needs to be applied to the property to reflect RCNLD.

If the house had an effective age of 30 years and an economic life of 50 years, the improvements would be 60% depreciated ($30/50=60\%$) or 40% good. The Reproduction Cost Less Depreciation of the house today would be:

$$\$107,189 \text{ (RCN)} \times 0.40 = \$42,879 \text{ RCNLD}$$

H. Depreciation

1. **Physical Depreciation** - A loss in value due to normal physical wear and tear on improvements. The physical wearing out of the improvement.
2. **Physical Curable Short Lived** – Part of the breakdown method of the Cost Approach. Items that have a life that is less than the remaining economic life of the improvements that are broken and need to be replaced immediately. Items that are broken like water heaters, HVAC, repairs or other items that are at the end of their useful life.
3. **Physical Incurable Short Lived** – Part of the breakdown method of the Cost Approach. Items that have a life that is less than the remaining economic life of the improvements that are not completely worn out or broken. Examples, roof with a 20-year life that is 5 years old, carpet with a 10-year life that is 8 years old. These items are depreciated on an age/life basis.
4. **Physical Incurable Long Lived** - Physical depreciation on the "bone structure" of the improvements. These are components such as framing, foundation, insulation, wiring, plumbing pipes, etc.

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PHYSICAL DEPRECIATION BREAKDOWN METHOD					
Total Building RCN	\$150,000				
RCN					DEPRECIATION Or Cost to Cure
Physical Curable Short Lived (PCSL)					
\$ 450		Broken Door			\$ 450
\$ 200		Damaged Window Screens			\$ 200
\$ 650	Total PCSL				\$ 650
Physical Incurable Short Lived (PISL)					
	Item	Eff Age	Eco Life	% Dep	
\$ 5,000	Flooring	5	10	0.50	\$ 2,500
\$ 8,000	Roofing	15	20	0.75	\$ 6,000
\$ 8,000	Appliances	9	12	0.75	\$ 6,000
\$ 6,000	Paint	8	10	0.80	\$ 4,800
\$ 9,000	HVAC	3	12	0.25	\$ 2,250
\$ 36,000	Total PISL				\$ 21,550
Physical Incurable Long Lived					
\$113,350	Remaining RCN not depreciated				
		Eff Age	Eco Life	% Dep	
	Total PILL	30	50	60%	\$ 68,010
				Total Physical Depreciation	\$ 90,210

- 5. Functional Curable** – Functional Obsolescence that is economically feasible to cure. Outdated kitchens and bathrooms may be curable.
- 6. Functional Incurable** - Functional Obsolescence that is not economically feasible to cure. Ceilings that are very low or too high, poorly arranged floorplans or excessive wall thickness.

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- b. Physical Life – The total period of time a building is expected to last.
- c. Economic Life – The total number of years the improvements are expected to contribute to the total property value.
- d. Effective Age - The age of a property based on observed condition and obsolescence.

10. Formulas for Age Life Concepts

- a. Economic Life = Effective Age + Remaining Economic Life
 - $\text{Effective Age/Economic Life} = \text{Depreciation}$
- b. Effective Age = Economic Life – Remaining Economic Life
 - $\text{Actual Age/Economic Life} = \text{Depreciation}$
- c. Remaining Economic Life – Total Economic Life - Effective Age

Complete Review Questions

NOTES:

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Review Questions: Cost Approach to Value

1. Name an example of each type of depreciation and how to measure in the box below.

<u>TYPE</u>	<u>EXAMPLE</u>	<u>MEASURE</u>
Physical Curable (Short-Lived)		
Physical Incurable (Short-Lived)		
Physical Incurable (Long-Lived)		
Functional Curable		
Functional Incurable		
External (Incurable)		

2. Using the 4-3-2-1 Rule, what percentage of a property's value is in the first $\frac{1}{2}$ of depth of the tract of land?

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3. What is the estimated value of the subject lot described in the chart below?

	SUBJECT	SALE 1	SALE 2	SALE 3	SALE 4
Sale Price		\$50,000	\$55,000	\$53,000	\$50,000
Date of Sale		Current	Current	Current	Current
Size (Sq. Ft.)	15,000	15,000	18,000	15,000	18,000
Location	Corner	Inside	Inside	Corner	Inside
Topography	Sloping	Level	Level	Level	Sloping
# of Adjustments				1	
Net Adjustments				-\$5,000	
Indicated Value				\$48,000	

- a. \$48,000
- b. \$58,000
- c. \$51,000
- d. \$46,000

4. An appraiser is estimating the value of a vacant lot in a built-up neighborhood. A comparable lot with a three-bedroom, two-bath house on it recently sold for \$178,000. The estimated RCN for the house is \$167,000. The improvement's depreciation is \$33,500. What is the indicated value of the subject lot?

- a. \$11,000
- b. \$33,500
- c. \$44,500
- d. \$133,500

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5. The typical land to improvement ratio in neighborhood A is 1:4. An improved property is appraised at \$150,000. What is the land value?
- \$33,000
 - \$25,000
 - \$30,000
 - \$75,000
6. An appraiser's assignment is to appraise a rent house in an area zoned single-family residential. The GRM method indicates the total property is worth \$90,000. The next block over is zoned commercial. A rent house on that block recently sold for \$125,000. The purchaser spent \$5,000 to clear the site and is constructing a \$100,000 office building. Another rent house on the commercial block sold for \$140,000. The purchaser spent \$20,000 to convert the house to office space, then sold the converted property for \$200,000. The appraiser has been asked to appraise the building using the hypothetical condition that the zoning on the subject block has also changed. What is the highest and best use of the subject property?
- Continuation in residential use.
 - Conversion of the existing improvement to office space.
 - Clearing the lot to allow new construction.
 - Property is zoned single family residential.
7. Values in the local market are declining at a rate of 1% per month. The CAD has a sale for \$150,000 that took place 6 months after the date of appraisal. What is the sale price adjusted for time?
- \$141,000
 - \$137,615
 - \$159,000
 - \$136,500

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8. **Cost Schedules typically reflect:**
- a. Reproduction Cost New
 - b. Replacement Cost New
 - c. Sales Price Per Square Foot
 - d. Depreciated Cost New
9. **The subject is a triplex in an area where the (monthly) gross rent multiplier is 114. Each rents for \$850 per month. What is the estimated property value?**
- a. \$290,700
 - b. \$96,900
 - c. \$193,800
 - d. \$387,600
10. **A house has recently been appraised that is typical of its neighborhood. The land value is \$35,000. The improvement value is \$140,000. What is the land to property ratio?**
- a. 4:1
 - b. 5:1
 - c. 1:5
 - d. 1:4
11. **The estimated replacement cost new of the subject improvement is \$120,000. It needs a new bath plumbing fixtures, which will cost \$15,000. Comparable improvements in similar condition to the subject recently sold for \$95,000 (building only). What is the subject's depreciation?**
- a. \$25,000
 - b. \$15,000
 - c. \$20,000
 - d. \$40,000

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12. An area has recently been re-zoned to allow commercial development. The house's replacement cost less depreciation is \$75,000. In residential use the land would be worth \$25,000. Vacant lots of the same size and topography in the commercial area have recently sold for \$130,000. It would cost \$5,000 to remove the existing improvement. Converting the existing improvement to office space would cost \$35,000. The converted property would sell for \$120,000. What is the appraised value of the subject property?

- a. \$100,000
- b. \$130,000
- c. \$120,000
- d. \$125,000

13. An appraiser is estimating the market value of a site, a residential lot 75' by 100'. No vacant land sales are available for this neighborhood. Two comparable properties have recently sold, each of which has fairly new improvements.

Sale #1 just sold for \$175,000; the RCN of the improvements is \$138,158 and the structure is 95% good.

Sale #2 just sold for \$182,000 and the structure is 100% good, with an RCN of \$142,000.

- a. What is the contributory value of the improvements to Sale #1? (Hint: RCN x % Good) _____
- b. What is the market value of the site for Comparable #1, as indicated by abstraction? _____
- c. What is the market value of the site for Comparable #2, as indicated by abstraction? _____
- d. What is the probable range in which the market value of the subject site will fall?

Two recently sold sales in the neighborhood were confirmed, with older improvements. The value of the site typically contributes 25% of sales price.

Comparable #3 sold for \$180,000. Comparable #4 recently sold for \$176,500.

- a. What is the market value of the site in Comparable #3? _____

- b. What is the market value of the site in Comparable #4? _____

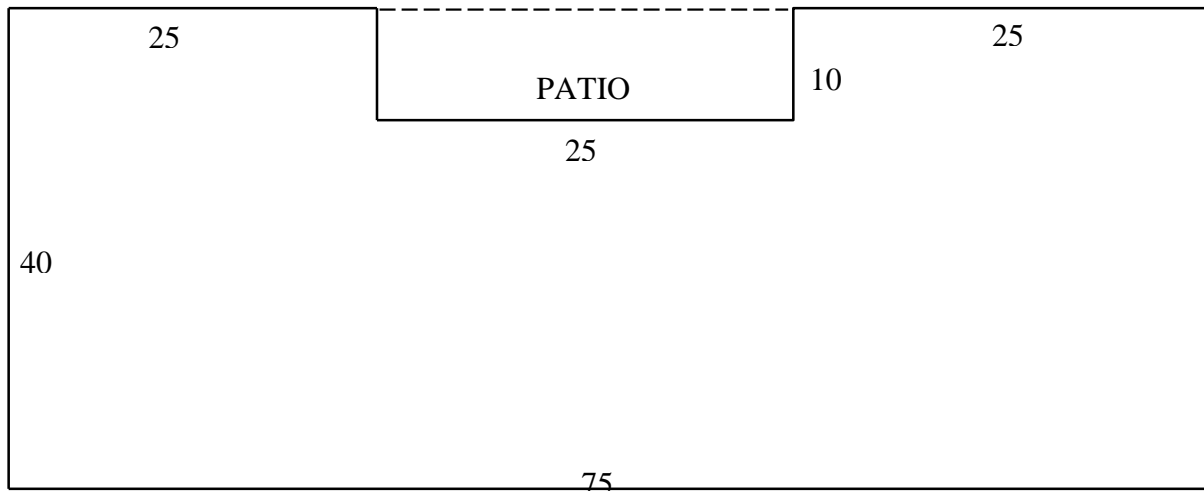
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Below is a schedule of unit cost for various construction components. Use it to estimate RCN for property A.

COMPONENT	GOOD	AVERAGE	POOR
Foundation/Sq. Ft.	\$15.09	\$12.08	\$10.50
Flooring/Sq. Ft.	\$17.25	\$13.80	\$12.00
Walls/Lin. Ft.	\$150.94	\$120.75	\$105.00
Roof/Sq. Ft.	\$14.38	\$11.50	\$10.00
Windows	\$215.63	\$172.50	\$150.00
Picture Windows	\$359.38	\$287.50	\$250.00
Exterior Doors	\$172.50	\$138.00	\$120.00
Interior Doors	\$93.44	\$74.75	\$65.00
Sliding Glass Doors	\$395.31	\$316.25	\$275.00
Decorative Doors	\$575.00	\$460.00	\$400.00

Total direct costs from table above; then add 25% for indirect costs.

PROPERTY A



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Problem 14 continued.

Property A has a good quality slab, which includes the patio. The flooring is good quality the walls are of average quality. The roof contains 3,840 square feet and is of good quality. The house has 15 average quality interior doors, three sliding glass door (good), two decorative doors (good), and two exterior doors (good). It has twenty good quality windows and two good quality picture windows.

Work Area Below:

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14. Book construction costs for the following properties were obtained along with the year they were constructed. Using the index for that year and the index for the current year, compute a cost multiplier for each property; then estimate the present Reproduction Cost New for each property:

NOTE: Round the cost indexes to four (4) decimal places.

<u>Book Cost</u>	<u>Year Built</u>	<u>Index for Year Built</u>	<u>Index for This Year</u>
\$85,800	1978	809.4	1183.4
\$85,750	1979	922.1	1183.4
\$86,230	1980	1020.8	1183.4
\$85,930	1981	1091.8	1183.4

Index Multiplier Development	Index Multiplier	Historical Cost	Trended Cost

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15. Examine the following list of properties, replacement costs, actual ages, effective ages and economic lives. Calculate the depreciation (lump sum) of each property using both the physical age/life and the effective (economic) age/life method. The purpose of this exercise is to demonstrate the difference in depreciation between using physical and effective age.

				Physical	Economic
a.	RCN	--	\$48,500		
	Actual Age	--	5 Years		
	Effective Age	--	2 Years		
	Economic Life	--	40 Years		
b.	RCN	--	\$70,000		
	Actual Age	--	12 Years		
	Effective Age	--	8 Years		
	Economic Life	--	50 Years		
c.	RCN	--	\$32,600		
	Actual Age	--	14 Years		
	Effective Age	--	10 Years		
	Economic Life	--	40 Years		
d.	RCN	--	\$88,000		
	Actual Age	--	25 Years		
	Effective Age	--	10 Years		
	Economic Life	--	60 Years		
e.	RCN	--	\$42,500		
	Actual Age	--	30 Years		
	Effective Age	--	15 Years		
	Economic Life	--	50 Years		

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16. Estimate the total amount of physical deterioration suffered by the office building using the breakdown method.

The subject being appraised is a twenty (20) year old office building with an estimated replacement cost new (RCN) of \$510,000.

Painting the exterior, \$15,000 included in RCN; Water heater \$1,200 included in RCN; \$2,000 to repair; painting interior, \$10,000 included in RCN.

Item	RCN	Effective Age	Economic Life
Floor cover	\$ 20,000	10	20
Roof cover	\$40,000	10	25
Heating & A/C	\$12,000	10	15
Plumbing fixtures	\$ 7,500	10	30

The appraiser estimates the effective age of the basic structure to be ten (10) years and the total economic life of the structure to be fifty (50) years.

Problem 17 worksheet on next page.

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PHYSICAL DEPRECIATION BREAKDOWN METHOD

NOTES:

Section Eight: Appraisal of Real Property Sales Comparison Approach

Class III: 19 Questions

Class IV: 20 Questions

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A. Market (Sales) Approach Methods

1. Sales Comparison Approach
2. Gross Rent/Income Multiplier
3. Land Development Method
4. Stock and Debt Method

NOTES:

B. Terms Associated with The Market Approach

4-3-2-1 Rule	<i>The first 25% of a lot ascribes 40% of the value, the next 25% - 30% of value, the next 25% - 20% of value, the last 25% - 10% of value. This rule may be used on standard depth lots but may produce inconsistent results with very deep or oddly configured properties.</i>
65-35 Rule	A triangular shaped lot with the base facing a street will have 65% of the value and the rear section of the lot with the apex facing the street will have 35% of the value if the lot were valued as a whole.
Actual Age	<i>The physical age of the improvements</i>
Amenity	A feature or improvement that adds to the value of a property that is not part of the base schedule
Anticipation	<i>An economic principle that states value is derived from future expected benefits.</i>
Assemblage	<i>The purchase of adjacent parcels of land to assemble a larger tract of land. Merging of adjacent properties into one common ownership or use.</i>
Balance	Economic principle that property will have more value if the surrounding area provide complementary property uses.
Building Schedules	Building Schedules for the Cost Approach may be built by using information from the Sales Comparison Approach. Information is available in both Sales Comparison and Cost Approaches.

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Change	An economic principle that the market is in a continual state of change.
Competition	Substantial profits will attract competition and increase competition. This may lead to ruinous competition.
Conformity	An economic principle stating that a property value will rise to its highest possible level if architectural styles are relatively homogeneous and surrounding land uses are compatible with its use.
Consistent Use	<i>The improvements on the site are the same as the highest and best use as the land. If the use is not consistent, the building is a "burden on the land" and has no value. The cost to remove these improvements should be removed from the value of the land.</i>
Consumptive Use	<i>When the probable use is by the purchaser, it may be called consumptive use. This is typical of residential usage and the Market Approach is usually the best indicator of value as it directly reflects the actions of the participants in the market.</i>
Contribution	An economic principle that an improvement value must be measured by the market, not by the cost.
Economic Life	<i>The period of time in which a tangible asset (improvements or personal property) is expected to contribute value to the property. This is usually a shorter period of time than the physical life.</i>
Effective Age	<i>The typical age of a structure with respect to utility and condition. It may or may not be the same as chronological age.</i>
Effective Gross Income	PGR-VCL+SI (FORMULA ALERT)
Effective Gross Rent	PGR-VCL (FORMULA ALERT)

NOTES:

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Expense Ratio	The percent of operating expenses to gross income. Used to calculate expenses and to help determine comparability in the sales and income approaches.
Fixture	Personal property that has been attached to the real estate in a way that removing the personal property would damage the real estate, is it required to use the real property or if the intent of the owner were to make the personal property part of the real estate. The personal property is now part of the real estate.
<i>Highest & Best Use</i>	<i>The most profitable use of a tract of land over the longest period of time.</i>
Improvements on Land	Structures erected on land
Improvements to Land	Improvements to bring raw land to a building site such as drainage, utilities, curbs, gutters, sidewalks.
Increasing and Decreasing Returns	The four agents of production, land, labor, capital (improvements) and Management (coordination) must be in balance for a property to produce optimum returns.
<i>Investment Use</i>	<i>Properties that are purchased for their income stream. The Income Approach is the best indicator of value for this type of property.</i>
Land Development Method	A method of appraising large tracts of rural land based on future development into residential development. Most mass appraisers do not have sufficient information to use this method.
Living Area	Total heated and cooled area of a residence
<i>Market Related Adjustments</i>	<i>Adjustments made to sales relative to market conditions, financing and time adjustments. Sales must meet the definition of Market Value transactions.</i>

NOTES:

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<i>Market Value</i>	<i>The price for which a property would transfer for cash or its equivalent under prevailing market conditions if: exposed for sale on the open market with a reasonable time for the seller to find a purchaser; both seller and purchaser know of all the uses and purposes to which the property is adapted and for which it is capable of being used and of the enforceable restrictions on its use; and both the seller and purchase seek to maximize their gains and neither is in a position to take advantage of the exigencies of the other.</i>
Percent Good	A percentage estimate of remaining value after deducting all depreciation and obsolescence
<i>Plottage</i>	<i>Combining two or more parcels of land under a single ownership in order to develop one site having greater utility and per unit value in the aggregate than the separate parcels. .</i>
Potential Gross Income	PGR + SI = PGI or all the market income a property is able to produce (FORMULA ALERT)
Potential Gross Rent	The total rent a property could produce at market rent with 100% occupancy
<i>Productive Use</i>	<i>Productive use properties are purchased for their ability to produce a product and are usually owner occupied. The Cost Approach is the best method to appraise these properties.</i>
<i>Progression</i>	<i>An economic principle that an inferior property value is increased by the proximity to better properties of the same use class. Example – Less desirable house in best neighborhood.</i>
<i>Regression</i>	<i>An economic principle that a superior property value is decreased by the proximity to inferior properties of the same use class.</i>

NOTES:

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Rent and Income Multiplier Method	Value is estimated based upon the gross rent or income produced by a property that is multiplied by a market derived factor (multiplier).
Stock and Debt Technique	A market approach method that substitutes for the sales comparison approach when an insufficient number of sales are found. Value is placed on the property based on the liabilities and equity on the company's balance sheet.
Sales Comparison Approach	One of the three approaches to value. Value for a subject property is estimated by upon a comparison to other similar properties.
<i>Subject Related Adjustments</i>	<i>Adjustments made to sales to make them similar to the subject for items such as size, age, land size, condition, amenities, topography. Subject Related Adjustments are always made AFTER Market Related Adjustments.</i>
<i>Substitution</i>	<i>An economic principle that no one will pay more for a property than they would for an acceptable substitute. Replacement Cost New usually sets the upper limit of cost.</i>
<i>Supply and Demand</i>	<i>Also called "Elasticity" in the market. The Mass Appraisal Model reflects supply and demand in the market.</i>
Surplus Productivity	Income from a property after the four agents of production (land, labor, capital and management) have been paid. This income is attributable to the land.
Vacancy and Collection Loss	Loss from two separate sources usually expressed as a combined percentage. One from lack of occupancy and one from bad debt.
<i>Value in the Marketplace</i>	<i>See Market Value</i>

NOTES:

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C. Sales Comparison Approach or Direct Sales Comparison Technique

1. Five Steps to The Sales Comparison Approach

- a. Define the appraisal problem.
- b. Collect and analyze the data.
- c. Select the appropriate units of comparison.
- d. Make reasonable adjustments based upon market information.
- e. Apply the data to the subject property to arrive at a final value estimate.

2. How To Apply Adjustments

a. Market Related (Adjustments First and in this order)

- 1) **Market Conditions** – Sale must meet the definition of a Market Value transaction. If it does not, disregard the sale.
- 2) **Adjust for financing** – If the purchaser received financing from the seller that was something other than market financing, adjustments will need to be made to the sale price. If the seller paid points to buy down the purchaser's interest rate, an adjustment will need to be made to the sale price.
- 3) **Time adjustments** - are necessary if the market has changed from the date of sale to the date of valuation.

((Current Sale Price-Original Sale Price)/Original Sale Price)# of months=% change monthly (FORMULA ALERT)

Current SP - \$201,600

Original SP - \$180,000

of Months – 12

$((\$201,600-\$180,000)/\$180,000)/12 = 0.01$ or 1% per month

b. Subject Related Adjustments

- 1) Adjustments made to sales to make them similar to the subject for items such as size, age, land size, condition, amenities, topography.

NOTES:

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- 2) Subject Related Adjustments are always made **AFTER** Market Related Adjustments and are based upon the market based contributory value of the amenity.
- 3) These adjustments may be made in any order necessary.

Comparable Sales Approach Example:

Using the comparable sale below, estimate adjustments for:

Time: % Per Month (APPLY TIME FACTOR THEN GO TO B) **NOTE:** Sales #2 & #5 sold twice.

- Sale #2 \$149,000-\$133,036 = \$15,964/\$133,036
= .12/12mo = .01 month
- Sale #5 \$153,000-\$144,340 = \$8,660/\$144,340 = .06/6mo
= .01 month

Construction - Brick Vs Frame (+ or -)

Brick =+ \$10,000

- Sale #1 Brick \$163,000 – Sale #5 Frame \$153,000=
\$10,000

Baths - Per Bath

\$4,000 per bath

- Sale #3: 2 Baths \$168,000 – Sale #4: 1 Bath \$164,000
=+ \$4,000

HVAC vs Heat only

HVAC +\$5,000

- Sale #3 Heat/Air \$168,000 – Sale #1 Heat Only
\$163,000 = \$5,000

Apply the subject-related adjustments and then estimate the value of the subject property:

NOTES:

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	Subjec	Sale 1	Sale 2	Sale 3	Sale 4	Sale 5
Price		\$163,000	<u>1 Year</u> \$133,036	\$150,000	\$154,717	<u>6</u> \$144,340
Date of Time		Curren	\$149,000	12 mos.	6 mos.	\$153,000
Construction	Brick	Brick	Frame \$10,000	Brick	Brick	Frame \$10,000
Baths	2	2 \$0	1 \$4,000	2 \$0	1 \$4,000	2
Heating, A/C	HVAC	Heat Only \$5,000	Heat Only \$5,000	HVAC	HVAC	Heat \$5,000
# of Net		1 \$5,000	3 \$19,00	0	1 \$4,00	2 \$15,000
Indicate		\$168,000	\$168,000	\$168,00	\$168,000	\$168,000
(*Current Sale)						

Estimated Value of Subject: \$168,000

NOTES:

3. Building A Value Schedule from Market Transactions

- a. Develop a classification system.
- b. Collect information on sales.
- c. Post sales to category.
- d. Time adjust sales prices.
- e. Adjust sales prices for non-typical features (Amenities or Additives)
- f. Select the value from each category that best represents typical value per unit of measure.
- g. Calculate adjustments required to tailor typical values to specific properties.

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NOTES:

EXAMPLE:

Calculate the cost new per square foot as indicated from this sale:

Sale price of improved property - \$225,000.

Sale date – 12/29/2019

Land value as of 1/1/2020 - \$50,000.

Value of additives as of 1/1/2020 - \$20,000. Percent good as of 1/1/2020 – 72%

Size of living area – 2,000 square feet

SOLUTION:

$$\begin{array}{r} \$225,000 \text{ Sale Price} \\ \times \quad \underline{1.00} \quad \text{(no time adjustment required)} \\ \$225,000 \\ - \quad 50,000 \quad \text{Land Value} \\ - \quad \underline{20,000} \quad \text{Additives} \\ \$155,000 \text{ RCNLD} \\ \quad \underline{\quad .72} \text{ Percent Good} \\ \$215,278 \text{ RCN} \\ / \quad \underline{2,000} \text{ Square Foot of Living Area} \\ \$ \quad 107.64 \quad \text{Per Square Foot} \end{array}$$

- h. This method is used to build, test and update improvement value schedules directly from the market.

C. Rent Multiplier Methods

1. Rent multipliers are useful when appraising small commercial and residential properties. (FORMULA ALERT)

PGR

-VCL

EGR

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2. Remember to use the same level of income against the appropriate multiplier.

Example:

Potential Gross Rent Multiplier (PGRM) X PGR
(FORMULA ALERT)

Effective Gross Rent Multiplier (EGRM) X EGR
(FORMULA ALERT)

Calculating a rent multiplier from comparable sales will give us information to estimate market value for our subject property.

Example

A rental residence sold for \$225,000 with a monthly rent of \$2,250. VCL in this

area is 20%. Calculate a monthly and annual PRGM and an EGRM.

Monthly

PGRM: $\$225,000 / \$2,250 = 100.00$ PGRM
Monthly

EGRM: $\$225,000 / (\$2,250 \times 0.80) = 125.00$ EGRM
Monthly

Annual

PGRM: $\$225,000 / (\$2,250 \times 12) = 8.33$ PGRM

EGRM: $\$225,000 / (\$2,250 \times 12 \times 0.80) = 10.42$ EGRM

What is the value of the subject if it has a rental rate of \$2,400 per month?

Monthly

PGRM: $\$2,400 \times 100.00 = \$240,000$ Estimated Value

EGRM: $(\$2,400 \times 0.80) \times 125.00 = \$240,000$ Estimated Value

NOTES:

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Annual

PGRM: $(\$2,400 \times 12) \times 8.33 = \$239,904$
Estimated Value

EGRM: $(\$2,400 \times 12 \times 0.80) \times 10.42 = \$240,077$
Estimated Value

3. GRM Formulas

a. Sales price / monthly rent = GRM (monthly)

1) Subject's monthly gross rent x GRM (monthly) = Value

b. Sales price / annual rent = GRM (annually)

1) Subject's annual gross rent x GRM (annual) = Value

c. Typically used for residential properties.

4. GIM Formulas

a. Sales price / monthly gross income = GIM (monthly)

1) Subject's monthly gross income x GIM (monthly) = Value

b. Sales price / annual gross income = GIM (annually)

1) Subject's annual gross income x GIM (annual) = Value

c. Typically used for large multifamily and commercial properties.

NOTES:

D. Land Development Method

1. Enables an appraiser to estimate the value of undeveloped land being considered for development.

2. Steps in the Development Method

a. Analyze the market to determine the most profitable way to develop the land.

b. Look at comparable sales of already developed land to estimate the gross sale price after the subject land is developed.

c. Estimate and subtract expenses to arrive at the value of the raw land.

d. Discount the raw land value over the amount of time necessary to sell it.

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An Example of The Development Method		
Projected gross sales (\$10,000 x 75 lots)		\$750,000
Site development	\$82,000	-\$237,000
Overhead and sales expense	\$75,000	
Profit and interest	<u>\$80,000</u>	
Subtotal expenses		
Indicated value of raw land, not considering time		\$513,000
Estimated selling time		5 years
Interest rate		6%
Present value of \$1 per period, 6% @ 5 years		4.212364
(\$513,000 / 5) x 4.212364		\$432,188
Indicated value of raw land		\$432,200

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E. Stock and Debt Method

1. An alternative market approach method that may be used for income properties, which seldom sell on the open market.
2. Based on the accounting principles that total assets equal the total of all liabilities and capital (equities).

Market Value = Value of Capital + Liabilities (**FORMULA ALERT**)
(Assets) (Current Value) (Current & Deferred)

NOTES:

Stock and Debt Method (Example):

Capital stock is currently trading at \$150.00 per share and there are 10,000 shares outstanding. Bonds are trading at \$50.00 per bond and there are 9,000 bonds issued.

STOCK AND DEBT METHOD: (SOLUTION)

XXX Corporation Balance Sheet

ASSETS

Current Assets		
Cash on hand and in banks	\$20,000	
Accounts	\$40,000	
Merchandise	\$100,000	
Prepaid Expenses	<u>\$50,000</u>	
Total Current Assets		\$210,000
Long Term Investments		
Stocks and Bonds	\$100,000	
Land	<u>\$120,000</u>	
Total Long-Term Investments		\$220,000
Plant and Equipment (less depreciation) Other Assets		\$1,250,000
Deferred Charges	\$50,000	
Intangible Assets	\$50,000	
Total Other Assets		\$100,000
TOTAL ASSETS		<u>\$1,780,000</u>

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LIABILITIES AND CAPITAL

Liabilities

Current Liabilities

Accounts Payable \$40,000

Notes Payable. \$40,000

Expenses Payable \$40,000

Total Current Liabilities. **\$120,000**

Long-term Liabilities (Notes Payable) **\$100,000**

Capital

CURRENT VALUE OF CAPITAL:

Current Value of Capital						
Stocks	10,000	Shares	X	\$ 150.00	Share	\$ 1,500,000
Bonds	9,000	Bonds	X	\$ 50.00	Bond	\$ 450,000
Retained Earnings (Cash)						\$ 260,000
Plus, Current Liabilities						\$ 220,000
Total Value by Stock & Debt Method						\$ 2,430,000

Since the Balance Sheet shows equities (liabilities and capital) equal to assets. The market value of the assets in this example would be \$2,430,000 by the STOCK and DEBT METHOD.

Complete Review Questions.

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Review Questions: Sales Comparison Approach

1. Which valuation technique requires an active market?
 - a. Cost multiplier approach
 - b. Capitalization approach
 - c. Comparable sales approach
 - d. Replacement cost approach

2. In estimating the value of a property, the market approach uses which of the following as a direct indicator of value?
 - a. Actual sale price information
 - b. Projected sale price information
 - c. Land and improvement cost information
 - d. Actual list price information

3. What do appraisers call a property's most profitable use over a given period of time?
 - a. Substitution value
 - b. Productivity index use
 - c. Commercial feasibility use
 - d. Highest and best use

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4. What is the estimated value of the subject property described in the chart below?

	SUBJECT	SALE 1	SALE 2	SALE 3	SALE 4
Sale Price		\$101,900	\$90,100	\$112,300	\$96,800
Date of Sale		Current	Current	Current	Current
Lot Size (Sq. Ft.)	10,000	10,000	12,500	12,500	10,000
Living Area (Sq. Ft.)	1,800	2,200	1,800	2,200	2,200
Bathrooms	3	3	2	2	2
# of Adjustments					
Net Adjustments					
Indicated Value					

- a. \$84,800
 - b. 101,900
 - c. 79,700
 - d. 95,200
5. Two homes on the same block are for sale. Each has three bedrooms, two baths, a two-car garage, similar amenities, and each is in good condition. The first house is listed for \$60,000 and the second for \$68,000. Which principle dictates that buyers will prefer the first house to the second?
- a. Supply and demand.
 - b. Substitution
 - c. Competition
 - d. Conformity

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6. Properties in an appraisal district are appreciating at two percent per month. If a property sold six months ago for \$60,000 what is its current value?
- a. \$63,600
 - b. \$61,200
 - c. \$67,200
 - d. \$52,800
7. A property sold one year ago for \$64,000. It recently sold for \$79,360. What is the monthly rate of appreciation?
- a. 24%
 - b. 19%
 - c. 1.60%
 - d. 2%
8. An improved property recently sold for \$100,000. The land component of the property is worth \$25,000. What is the land-to-property ratio?
- a. 1:3
 - b. 1:4
 - c. 4:1
 - d. 3:1

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9. An improved property recently sold for \$120,000. The land-to-improvement ratio is 1:3. What is the land value and the improvement value?
- a. Land = \$30,000 Improvement = \$90,000
 - b. Land = \$40,000 Improvement = \$80,000
 - c. Land = \$80,000 Improvement = \$40,000
 - d. Land = \$90,000 Improvement = \$30,000
10. When the appraiser adjusts the sales prices of the comparable properties for the size of improvements the category of adjustment is?
- a. Market related adjustments
 - b. Market condition
 - c. Subject related adjustments
 - d. Time adjustments
11. The subject property sold two years ago for \$250,000. It recently sold for \$295,000. What is the monthly rate of appreciation?
12. The subject property sold six (6) months ago for \$225,000. It recently sold for \$250,000. What is the monthly rate of appreciation?

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13. Sales Adjustment Grid

	SUBJECT	SALE #1	SALE #2	SALE #3	SALE #4
Sale Price		\$125,000	\$128,000	\$125,500	\$127,500
Date of Sale		Current	Current	Current	Current
Time Adjusted					
Condition	Good	Fair	Good	Fair	Good
Imp Size	1,000	1,025	950	1,000	975
Heat/Air	Heat/Air	Heat Only	Heat/Air	Heat Only	Heat/Air
Garage	2 Car	1 Car	2 Car	2 Car	1 Car
# Adjustments					
Net Adj Amount					
Indicated Value					

Market Data:

- (1) Condition: Fair condition is \$5,000 less than good condition.
- (2) Size Adjustment: \$100 per square foot
- (3) Heat/Air: \$2,500 more than heat only.
- (4) Garage: 2 car garage is \$3,000 more than 1 car garage

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14. Develop a schedule of value (RCN) for residential frame, quality class 3 (RF-3) in the 1501-1600 square foot range.

	SALE 1	SALE 2	SALE 3	SALE 4	SALE 5	SALE 6
SALE PRICE	\$ 62,400	\$ 56,675	\$ 65,950	\$ 51,900	\$ 47,250	\$ 47,000
DATE OF SALE (MONTHS AGO)	6	3	2	0	6	0
APPRECIATION PER MONTH	1%	1%	1%	1%	1%	1%
TOTAL APPRECIATION	6%	3%	2%	0%	6%	0%
MULTIPLIER	1.06	1.03	1.02	1.00	1.06	1.00
SALES PRICE ADJUSTED						
LAND CONTRIBUTORY VALUE	\$ 4,500	\$ 6,000	\$ 7,500	\$ 8,000	\$ 6,200	\$ 6,000
ADDITIVES	#1 Fireplace	NONE	#3 Pool	NONE	#4 Fence	#5 Cov Patio
	#2HVAC					
RCNLD						
PERCENT GOOD	87%	92%	94%	76%	73%	65%
RCN						
SQ FT OF LIVING AREA	1587	1505	1566	1535	1544	1590
PRICE PSF						

Contributory Values: (as of date of sale)

#1 Fireplace	-	\$3,500
#2 HVAC	-	\$5,500
#3 Pool	-	\$4,000
#4 Fence	-	\$1,200
#5 Patio	-	\$2,200

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15. Based on the given information, which of the following sales is most comparable to the subject property?

Subject:

30 two (2) bedroom units rent for \$325/month each

25 three (3) bedroom units rent for \$375/month each

5 four (4) bedroom units rent for \$500/month each

The expense ratio is 29%

Comparables:

<u>Sale</u>	<u>Sale Price</u>	<u>Annual Rent</u>	<u>Expense Ratio</u>
1.	\$1,625,000	\$250,000	30%
2.	\$1,250,000	\$175,000	32%
3.	\$2,000,000	\$312,500	28%
4.	\$2,500,000	\$350,000	25%

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16. Estimate the market value of the commercial property using the gross rent multiplier (annual) method.

	<u>Comparable Sales Price</u>		<u>Rents for Comparables</u>	<u>Expense Ratio</u>
1)	\$3,000,000	/	\$461,538 per year =	30%
2)	\$2,500,000	/	\$316,455 per year =	33%
3)	\$4,000,000	/	\$625,000 per year =	27%
4)	\$5,000,000	/	\$666,667 per year =	26%

Subject Property:

60 two (2) bedroom units rent for \$325/month each

50 three (3) bedroom units rent for \$375/month each

10 four (4) bedroom units rent for \$500/month each

Expense ratio is 29%

Calculate the rent multiplier for each comparable and the potential gross rent for the subject. Using the most comparable property, calculate an estimated value for the subject.

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17. Calculate the following Land to Building property ratios & values for the following:

(A) Land value is \$150,000 and total property value is \$900,000.

	# of Parts	Value
Land -	_____	_____
Building	_____	_____
Property -	_____	_____

(B) The total property value is \$500,000; the land value is \$100,000. The land to building ratio is 1:4.

	# of Parts	Value
Land -	_____	_____
Building	_____	_____
Property -	_____	_____

(C) The building value is \$100,000; the property value is \$125,000. The land to property ratio is 1:5.

	# of Parts	Value
Land -	_____	_____
Building	_____	_____
Property -	_____	_____

NOTES:

Section Nine: Income Approach to Value

Class III – 20 Questions

Class IV – 23 Questions

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A. Income Approach Methods

1. Direct Capitalization (traditional Method)
2. Rental and Income Multipliers
3. Yield Capitalization

B. Major Economic Principles Underlying the Income Approach

1. **Anticipation** – value is measured by the present worth of all anticipated future benefits of a property (future net cash flows and possible resale)
2. **Change** – how will projected changes in the economy and neighborhood affect rental rates for example. Projected changes in expenses due to maintenance, taxes, insurance, etc.
3. **Supply and Demand** – Oversupply or a lack of demand will naturally lower income possibilities. High demand or lack of supply will raise income and value.

C. Steps To Direct Capitalization Using Irv FORMULA ALERT

1. Determine Potential Gross Rent using **Market Rent** (PGR)
2. Subtract Vacancy and Collection Loss (-VCL)
3. Equals Effective Gross Rent (EGR)
4. Plus Secondary Income (+SI)
5. Equals Effective Gross Income (EGI)
6. Subtract operating expenses (-OE)
7. Equals Net Operating Income (NOI)
8. Select the capitalization rate (R)
9. Divide NOI by the capitalization rate equal Value (V)

OR

NOTES:

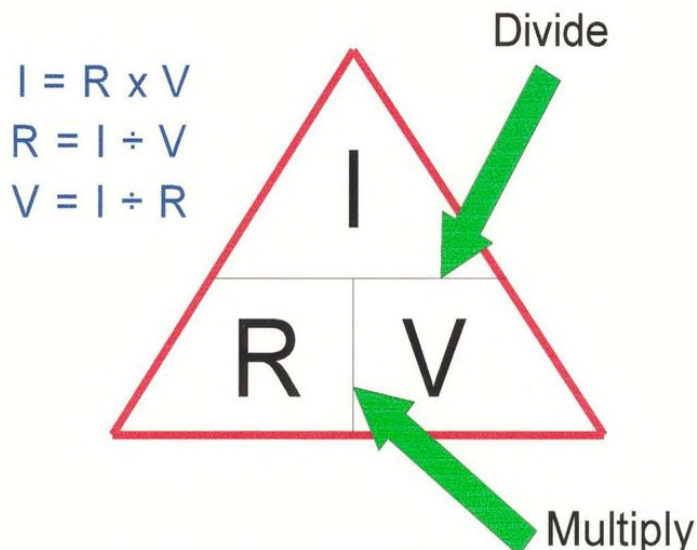
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$$\begin{array}{r} \text{PGR} \\ -\text{VCL} \\ \hline \text{EGR} \\ +\text{SI} \\ \hline \text{EGI} \\ -\text{OE} \\ \hline \text{NOI} \end{array}$$

NOTES:

NOI IS THEN MOVED INTO THE IRV FORMULA:

The IRV Equation



Note: Imagine the horizontal line separating the income box from the rate and value boxes as if this were a math formula. To use IRV, we would calculate Income divided by Rate = Value or Income divided

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by Value = Rate. Now imagine that a multiplication symbol is on the vertical line separating Rate and Value. Multiplying Rate by Value will equal Income.

NOTES:

D. Terms Associated with Direct Capitalization

Building Capitalization Rate	Discount (Return) Rate + Recapture Rate
Built Up Discount Rate	One method of estimating a discount rate. Four components - Risk Rate, Safe Rate, Liquidity Rate and Money Management Rate
Capitalize	To convert to value
Capitalization Rate	Rate used to convert estimated future income into present value
Contract Rent	The actual rent as stated on a contract, may or may not be market rent
Discount Rate	The rate of return ON an investment
Economic Rent	See Market Rent
Effective Gross Income	$PGR - VCL + SI$ FORMULA ALERT
Effective Gross Rent	$PGR - VCL$ FORMULA ALERT
Equity (Ownership)	Market Value - debts on property (mortgages) = equity
Equity Capitalization Rate	$\text{Equity Income} / \text{Equity Value} = \text{Equity Capitalization Rate}$
Equity Yield Rate	the rate of return on equity capital (the investor's expected return on the investment)
Expense Ratio	The percentage of expense in relationship to the EGI
IRV	IRV is the most accurate method of determining value in Direct Capitalization. Basic Formula - $\text{Income} / \text{Rate} = \text{Value}$.
Land Capitalization Rate	The Land Capitalization Rate is the same as the Discount Rate, the rate of return ON the investment. $\text{Land Income} / \text{Land Value} = \text{Land Capitalization Rate}$.

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Leverage	Debt capital, the amount/ratio that is owed on a property
Non-Liquidity Rate	One of the four rates in the "built up" capitalization rate. Liquidity refers to an investors ability to convert the asset into cash.
Market Rent	Prevailing rent in the market. Always use market rent and market expenses in calculations.
Money Management Rate	The rate for managing the investment, part of the Built-Up Discount Rate. This is different from the Management Rate in the Operating Expenses.
Mortgage Capitalization Rate	Annual debt service/total loan = mortgage capitalization (constant). It is the lender's capitalization rate.
Mortgage Constant	See Mortgage Capitalization Rate
Mortgage Interest Rate	The interest rate stated on the mortgage.
Net Operating Income	$PGR - VCL + SI - OE = NOI$ FORMULA ALERT
Operating Expenses	Annual recurring expenses necessary to maintain the property that owners typically pay. Only use market expenses, not contract expenses.
Potential Gross Income	$PGR + SI = PGI$ or all the market income a property is able to produce FORMULA ALERT
Potential Gross Rent	The total rent a property could produce at market rent with 100% occupancy.
Recapture Rate	Return OF an investment, the amount recaptured annually from the NOI for wasting assets.
Reserves for Replacement	An annual allowance for replacement cost of short-lived items that will not last the remaining economic life of the property.
Risk Rate	A rate included in the Built-Up Discount Rate that considers the risk of the investment.

NOTES:

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Safe Rate	A rate included in the Built-up Discount Rate, usually equal to a T-Bill or other safe investment rate.
Secondary Income	Income to the property that is not rental income.
Vacancy and Collection Loss	Loss from two separate sources usually expressed as a combined percentage. One from lack of occupancy and one from bad debt.

NOTES:

Always use market rents and market expenses, do not use contract rents or expenses.

Texas Appeals Courts have ruled that market rent is appropriate regardless of the lease contract on a property. [Tex. Civ. App. 590 S.W.2d 793]

E. Potential Gross Rent Development

Examples of Lease types and typical conditions:

Percentage Leases - Usually has a base rate and then the tenant pays a percentage of income. Common in retail leases.

Graduated - The lease calls for a specified increase in rent level over a specific time period.

Index - Rent adjustments are based on published indicators such as the CPI.

Triple Net (NNN) - Lessee pays all maintenance and expenses including taxes and insurance.

EXAMPLE: Retain this information, we will build on this problem.

Office Market Rent – 12,000 sf X \$1.00 psf per month = \$12,000 per month or \$144,000 annually

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F. Vacancy and Collection Loss

1. Vacancy loss is based upon the market vacancy of a property type in a specific market.
2. Collection loss is the typical amount lost due to bad debt.
3. These two percentages are added together for one deduction.

G. Secondary Income

1. Secondary Income is income produced by the property that is not rent.
2. Examples of secondary income include the following: garage rental, clubhouse rental, concierge services and vending machine income.

H. Allowable Operating Expenses

1. Below are examples of operating expenses that may be deductible.
2. Always use expenses that are recognized by the market, not the contract that is on the property.
3. Expenses may be stated as a percentage of the EGI and called an **Expense Ratio**.

NOTES:

EXAMPLE

NOTES

Advertising

Necessary to keep the building occupied.

Furniture Rental

Usually lobby furniture or office furniture. Occasionally, furniture in apartments that are rented furnished.

Insurance

Fixed Expense - Usually deductible unless the lease calls for the lessee to pay the expense.

Janitorial

Cleaning services.

Lawn Service

Maintenance for lawn and shrubs.

Management

Usually a percentage of EGI, a fee paid to manage the property. Generally paid to an outside property management company. Expense to the owner of the property.

Miscellaneous Expenses Small expenditures - for test purposes, always allow this expense.

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Payroll	Caretakers and staff onsite to manage the property.
Repairs	Minor repairs.
Reserves for Replacement	Short lived items in the Cost Approach that have a remaining economic life that is less than the improvement remaining economic life. Replacement cost is estimated and divided over the estimated life of the item. One year's cost of the short-lived items is deducted as an operating expense.
Security Services	Building security.
Supplies	Office supplies and other supplies used on the site to maintain the property.
Taxes Fixed Expense	- Usually deductible unless the lease calls for the lessee to pay the expense.
Utilities	Power, water, gas.

NOTES:

I. Disallowed Expenses

1. Many of the expenses below may be found on an operating statement submitted by a property owner.
2. We only consider expenses that are directly related to the maintenance and operation of the property.
3. No capital expenditures are allowed.
4. The IRS allows accelerated depreciation that does not consider the actual physical/economic life of a property.
5. Other expenses on an owner's statement may be related to the business, but not to the real estate.

EXAMPLE	REASONING
Debt Service	This expense is to the owner, not the property.
Depreciation	Depreciation consideration is included in the recapture component of the capitalization rate.

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NOTES:

Dues	Business expense, not an expense to the property.
Income Tax	Properties do not pay income tax; people pay income tax.
New Improvements	Capital expenditures can be divided into two categories. New improvements are not necessary to maintain the property in its current condition. Repairs and replacements are in Reserves for Replacement.
Travel	The property does not need to travel.
Vehicles	It is the owner's choice to provide a vehicle for the property; it is not necessary to maintain the property.

Example:

Office Building Example above continued.

$12,000 \text{ sf} \times \$1.00 \text{ psf} \times 12 \text{ months} = \$144,000$

In the local market, rental rates are \$1.25 per square foot per month, the Vacancy Loss rate is 10% and Collection Loss is 5%. Secondary Income (SI) is usually 3% of Effective Gross Rent (EGR) Management is 5 percent of effective gross income. Building owners typically pay fixed expenses. In this market, tenants pay janitorial, utilities and building security. The operating statement below was submitted by the property owner.

Using the information below, rework the operating statement on next page using the market information above.

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Owner's Statement			
Gross Income			\$ 144,000
Management		\$ 18,000	
Property Tax		\$ 19,000	
Depreciation		\$ 36,000	
Travel		\$ 2,000	
Insurance		\$ 5,000	
Staff Salaries		\$ 33,000	
Donations to local charities		\$ 2,500	
Utilities		\$ 21,000	
Security		\$ 6,000	
Janitorial		\$ 6,000	
Supplies		\$ 1,800	
Advertising		\$ 1,000	
Reserves			
	HVAC	\$ 4,000	
	Roof	\$ 2,500	
	Parking lot	\$ 4,500	
	Total Reserves	\$ 11,000	
Total Expenses			\$ 162,300
		NOI	\$ (18,300)
Estimated Cost of Reserves			
	HVAC/10 years	\$ 30,000	
	Roof/20 years	\$ 40,000	
	Parking/12 years	\$ 36,000	

NOTES:

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Reconstructed Operating Statement			
Owner's Statement			
PGR 12,000 X \$1.25 X 12			\$ 180,000
VCL 15%			\$ 27,000
EGR Effective Gross Rent			\$ 153,000
Secondary Income			\$ 5,400
EGI Effective Gross Income			\$ 158,400
Operating Expenses			
Management		\$ 7,920	
Property Tax		\$ 19,000	
Depreciation		\$ -	
Travel		\$ -	
Insurance		\$ 5,000	
Staff Salaries		\$ 33,000	
Donations to local charities		\$ -	
Utilities		\$ -	
Security		\$ -	
Janitorial		\$ -	
Supplies		\$ 1,800	
Advertising		\$ 1,000	
Reserves			
	HVAC	\$ 3,000	
	Roof	\$ 2,000	
	Parking lot	\$ 3,000	
	Total Reserves	\$ 8,000	
Total Expenses			\$ 75,720
NOI			\$ 82,680

NOTES:

- Using market rental information, correcting the reserve amounts and removing business expenses from the operating statement can make a substantial difference in the Net Operating Income of the real estate.

J. Capitalization (Cap) Rate Development

Understanding Cap Rates

- The term “capitalize” means to convert into value.
- Cap rates can be developed using a variety of methods.

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3. The basic assumption of Direct Capitalization is that the investor will hold the investment until the improvements have “wasted away” due to physical or economic conditions.
4. This means the improvements will have zero resale value at the end of the investment and there will be no recapture of the investment at the sale.
5. ***The Cap Rate must consider the return ON the money that is invested, and the return OF the money (Recapture) invested in the wasting assets.***
6. ***Land earns return ON the investment, also called the Discount Rate***
7. ***Improvements earn return ON and return OF the investment, called the Building Cap Rate.***
8. **Discount Rate** (Return ON) is determined by one of the following methods:
 - a. Summation Method
theoretical approach
 - 1) Safe Rate
 - 2) Risk Rate
 - 3) Non-Liquidity Rate
 - 4) Money (investment) Management Rate
 - b. Market Analysis (Abstraction) Method using comparable sales. Income to recapture is deducted from property income first, remaining income is discount (return ON) the whole property.
 - 1) **$R(\text{discount}) = I(\text{discount})/(\text{property})$ (FORMULA ALERT)**
 - 2) **$I(\text{discount}) = I(\text{N.O.I.}) - I(\text{recapture})$ (FORMULA ALERT)**
9. **Recapture rate** (Return OF) is determined by one of the following methods:
 - a. Straight-line recapture (Remaining Economic Life Method)
100% Recapture of the total investment in the wasting assets (not land) divided by the remaining economic life of the improvements.
 - 1) **100% divided by Remaining Economic Life = Recapture Rate**

NOTES:

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- 2) **EXAMPLE - 1.00/20-year REL = 0.05 or 5% per year Recapture (FORMULA ALERT)**
 - 3) The investor needs to recapture or get 5% of the investment in the wasting assets every year in the NOI.
 - 4) If \$150,000 were invested in the improvements (wasting assets) then 5% or \$7,500 of this value would need to be recaptured annually.
- b. **Market Analysis (Abstraction) Method using comparable sales.**
- 1) $R(\text{recapture}) = I(\text{recapture}) / V(\text{bldg})$
(FORMULA ALERT)
 - 2) $I(\text{recapture}) = I(\text{N.O.I.}) - I(\text{return})$
(FORMULA ALERT)

EXAMPLE:

Property has a total market value of **\$500,000**. Improvement value is **\$400,000**. Property produces **\$100,000** in net operating income, with **\$20,000** being recapture income, the remainder is discount income. What is the recapture rate, the discount cap rate, and the building cap rate?

Total Income \$100,000

Recapture Income \$20,000

Discount Income \$80,000

Recapture Rate: $\$20,000 / \$400,000 = .05$ or 5%

Land (discount) Rate: $\$80,000 / \$500,000 = .16$ or 16%

Building Cap Rate: 5% (recapture) + 16% (discount) =
.21 or 21%

NOTES:

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K. Methods of Developing Cap Rates

1. Market Derived Overall Capitalization Rate:

$$R \text{ (OAR)} = I(\text{NOI}) / V \text{ (property)}$$

(FORMULA ALERT)

EXAMPLE:

Calculate the overall cap rate using the Market Analysis Method.

Property A sold for \$325,000. and has a total net operating income of \$45,500.

Solution:

$$R \text{ (OAR)} = I(\text{NOI})/V \text{ (property)}$$

$$R = \$45,500/\$325,000$$

$$R = 0.14 \text{ or } 14\%$$

2. Band of Investment Methods

a. **Land and Building Method** – Property is separated into the physical components of land and building with rates that apply to each component. Assuming the land represents 25% of the overall value, the discount rate (land rate) is 10% and the recapture rate is 4%, the OAR calculation is as follows:

Component	%	X	Rate		Solution
Land	0.25	X	0.10	=	0.025
Building	0.75	X	0.14	=	<u>0.105</u>
	1.00		(0.10+0.04)		0.13

b. **Mortgage and Equity Method** – Property is separated into financial components of mortgage and equity. Lenders have return requirements on loans just as investors have return expectations on equity. These components can be used to develop an overall rate. Mortgages have a stated interest rate to the consumer but that is not the actual return to the

NOTES:

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mortgage company or bank. The Mortgage Capitalization Rate, also called the Mortgage Constant, is used in this calculation. The mortgage constant is the amount to amortize (pay off) a loan. It is calculated by adding one year's mortgage payments and dividing that total by the loan amount. This is the annual return to the investor. **Do not use the mortgage interest rate in this calculation.**

Properties may have multiple mortgages, and all must be considered in the calculation of the rate. Property is 100% and equity is the remainder after deducting the percentage contribution of the mortgages.

NOTES:

Component	%	X	Rate	=	Solution
Mortgage 1	0.60	X	0.086667	=	0.052
Mortgage 2	0.15	X	0.161113	=	0.0242
Equity	0.25	X	0.15	=	<u>0.0375</u>
	1.00				0.1137

L. Loading the Cap Rate

1. Adding the Tax Rate to the Cap Rate is referred to as "Loading the Cap Rate."
 - a. ***If taxes are deducted as part of the expenses in an Operating Statement, the Cap Rate will not be loaded. If taxes are not deducted in the Operating Expenses, the Cap Rate needs to be loaded to consider the effect of taxes on the value of the property.***
 - b. In the Mortgage and Equity example above, the Cap Rate is 0.1137 or 11.37%.
2. Adding a tax rate of \$1.75 would change the Cap Rate as follows:

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Example:

Convert \$1.75 to a decimal by dividing by 100 = $\$1.75/100 = 0.0175$

0.1137 Unloaded Cap Rate

0.0175 Tax Rate

0.1312 Loaded Cap Rate

NOTES:

M. Rent and Income Multipliers

1. Rent and income multipliers are useful tools when appraising small commercial and residential properties.
2. We use some of the same levels of income that we developed in the Direct Capitalization Method to obtain NOI.

$$\begin{array}{r} \text{PGR} \\ -\text{VCL} \\ \hline \text{EGR} \\ -\text{SI} \\ \hline \text{EGI} \end{array}$$

FORMULA ALERTS (*know the difference between the PGR and EGR is VCL. Also difference between the EGR and EGI is SI.*)

3. Notice that the formula stops at Effective Gross Income (EGI).
Whenever NOI is known, the appraiser will **ALWAYS** use Direct Capitalization (IRV) or Yield Capitalization.
4. When using multipliers **ALWAYS** use the same level of income against the appropriate multiplier.

Example:

Potential Gross Rent Multiplier (PGRM) X PGR (FORMULA ALERT)

Effective Gross Rent Multiplier (EGRM) X EGR (FORMULA ALERT)

Effective Gross Income Multiplier (EGIM) X EGI (FORMULA ALERT)

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5. Calculating a rent or income multiplier from comparable sales will give us information to estimate market value for our subject property.

Sale

A rental residence sold for \$225,000 with a monthly rent of \$1,750. VCL in this area is 12%. Calculate a monthly and annual PRGM and an EGRM.

Monthly

$$\text{PGRM: } \$225,000 / \$1,750 = 128.51 \text{ PGRM Monthly}$$

$$\text{EGRM: } \$225,000 / (\$1,750 \times 0.88) = 146.10 \text{ EGRM Monthly}$$

Annual

$$\text{PGRM: } \$225,000 / (\$1,750 \times 12) = 10.71 \text{ PGRM}$$

$$\text{EGRM: } \$225,000 / (\$1,750 \times 12 \times 0.88) = 12.18 \text{ EGRM}$$

Value

What is the value of the subject if it has a rental rate of \$1,800 per month?

Monthly

$$\text{PGRM: } \$1,800 \times 128.51 = \$231,318 \text{ Estimated Value}$$

$$\text{EGRM: } (\$1,800 \times 0.88) \times 146.1 = \$231,422 \text{ Estimated Value}$$

Annual

$$\text{PGRM: } (\$1,800 \times 12) \times 10.71 = \$231,336 \text{ Estimated Value}$$

$$\text{EGRM: } (\$1,800 \times 12 \times 0.88) \times 12.18 = \$231,517 \text{ Estimated Value}$$

6. **Effective Gross Income Multipliers (EGIM)** work in the same manner, except the appraiser must remember to add the secondary income before making calculations.

NOTES:

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7. Usually gross income multipliers are annual, not monthly.

(READ THE QUESTION CAREFULLY FOR MONTHLY OR ANNUAL MULTIPLIER)

Example:

A small office building has a monthly potential gross rent of \$4,500 and an annual secondary income of \$3,500 for garage parking. The property sale price was \$575,000. What is the annual gross income multiplier?

PGR \$4,500 X 12 = \$54,000

Annual Gross Income = \$ 3,500

Potential Gross Income **\$57,500**

Sale Price \$575,000/\$57,500 PGI = **10 PGIM**

The subject property has a monthly rental rate of \$4,650 and an annual secondary income of \$3,250. What is the value of the subject using the information above?

PGR (\$4,650 X 12) + \$3,250 SI = \$59,050 X 10 = **\$590,500**

Estimated Value

N. Yield Capitalization

1. Yield Capitalization is also used to convert future benefits (income) into a present value but is significantly different than traditional or Direct Capitalization of Income.
2. Direct Capitalization is very useful in stable markets, but a DCF is able consider varying cash flows that are typical in rapidly changing markets.
3. The Ellwood method is one form of yield capitalization, but it is far more complicated than a DCF analysis.
4. ***Discounted Cash Flow (DCF) is a form of yield capitalization and the one most used in Mass Appraisal.***
 - a. **Discounted Cash Flow Analysis**

NOTES:

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- 1) A DCF makes several assumptions concerning a property that is different from Direct Capitalization.
- 2) *The property is owned by an investor with a specific holding period. At the end of the holding period, the investor will sell the property.*
- 3) The property will undergo changes during the holding period that will affect the NOI. Long term leases may expire, the neighborhood may be undergoing rapid changes, the property may need substantial expenditures to stay competitive with the surrounding market, a new public or private improvement may increase the neighborhood's desirability.
- 4) The ratio of mortgage and equity will change over the investment period,
- 5) *DCF uses a yield rate to estimate the value of the cash flow, not a cap rate.*

b. Definitions

- 1) **Holding Period**- the time that a typical prudent investor will retain ownership of properties comparable to the subject.
- 2) **Reversion**- a lump amount the owner will receive in the future. Also, the process of converting future value to present worth.

c. Steps to the DCF

- 1) Estimate the length of the holding period by a typical investor of this type of property in this market.
- 2) Estimate the NOI for each year of the holding period.
- 3) *Determine the proper yield rate. Yield rates are comprised of a Discount Rate and the investor's expected return on the investment.*

NOTES:

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NOTES:

- 4) Select a cap rate for the reversion, the sale of the property at the end of the holding period.
- 5) Determine typical marketing and closing costs associated with selling the investment.
- 6) Each year's estimated future NOI must be reverted back to Net Present Value using a Present Value of \$ factor. (See Six Functions of \$ Table)
- 7) Use the last year's NOI to calculate the estimated sale price at the end of the investment using a cap rate.
- 8) Revert this future value into net present value.
- 9) Deduct cost of sale from the estimated sale price.
- 10) Total the discounted income streams to estimate the total present value of the subject.

Example of DCF:

In the following example, we will estimate the market value of an apartment complex. We know that the owner expects to keep the property for 5 years, and we know that a reversion is expected at the end of the holding period. The yield rate is 12%, Cap Rate 10% and cost of sale is 10%. Following is a list of the irregular income stream (NOI) for each year of the holding period:

Year 1	\$75,696
Year 2	\$84,885
Year 3	\$62,780
Year 4	\$79,987
Year 5	\$92,600

The next step is to estimate how much will revert to the owner at the end of the holding period when the property is sold. To do this we capitalize the fifth year NOI by direct capitalization using an overall rate of 10% and a cost of sale of 10%.

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Estimated Reversion at the end of the holding period:

\$92,600 NOI / 10% Cap Rate = \$926,000

Less 10% Cost of Sale \$ 92,600

Estimated Net Sale Price \$833,400

All of the future income streams are discounted back to present value by applying a present value factor.

NOTES:

Year	Income	Factor	Present Value
Year 1	\$ 75,696	0.892957	\$ 67,593
Year 2	\$ 84,885	0.797194	\$ 67,670
Year 3	\$ 62,780	0.711780	\$ 44,686
Year 4	\$ 79,987	0.635518	\$ 50,833
Year 5	\$ 92,600	0.567427	\$ 52,544
Reversion	\$ 833,400	0.567427	\$ 472,894
	Final Value		\$ 756,219

DIFFERENCES BETWEEN DIRECT (TRADITIONAL) AND YIELD CAPITALIZATION)

	DIRECT	YIELD
Income Analyzed	Single	Multiple
Reversion (Resale at a the end)	No	Yes
Rate	OAR	Yield
Depreciation	Recapture	None
Example	IRV	DCF

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O. Seven basic factors that influence property values and how they influence Capitalization Rates and Yield Rates

1. **CONVERSION OF DEBT TO EQUITY**.- A yield rate considers conversion of debt to equity over a property's holding period, but a cap rate only uses one year's income. (YIELD RATE)
2. **ANTICIPATED DEPRECIATION**.- Cap rates and yield rates account for different types of depreciation. A cap rate accounts for the depreciation of wasting assets by including a recapture component. It does not account for anticipated declines in property value over the holding period if those declines arise from general economic conditions. A yield rate does not include a component for recapture but does account for anticipated changes in property value over the holding period in both the NOI and the reversion. (CAP & YIELD RATE)
3. **NON-LIQUIDITY**.- Both yield rates and cap rates account for non-liquidity. A non-liquidity factor makes up part of the return rate, which is part of both the cap rate and the yield rate. (CAP & YIELD RATE)
4. **RISK** - Risk makes up part of the return rate. Discount or Return rates are part of yield rates and cap rates. (CAP & YIELD RATE)
5. **LENGTH OF THE HOLDING PERIOD**.- Length of the holding period does not influence overall cap rates, which apply to one year's income. A yield rate is based on the anticipated holding period. (YIELD RATE)
6. **RATIO OF WASTING TO NON-WASTING ASSETS**.- The recapture rate is included in the overall cap rate. Recapture of the investment is in the reversion (sale) of the property when using yield rates. (CAP RATE)
7. **RECAPTURE OF SHORT-LIVED ASSETS** - Recapture of short-lived assets has no influence on either the yield rate or the cap rate. Recapture of short-lived assets is in Reserves for Replacement in Operating Expenses. (NEITHER)

NOTES:

Complete review questions.

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Review Questions: Income Approach to Value

1. Calculate the following using IRV:

a. Rate = 10%, Value = \$275,000

b. Rate = 9%, Income = \$65,000

c. Income = \$33,000, Rate = 10.5%

d. Value = \$650,000, Rate = 0.12

e. Income = \$45,987, Value = \$865,745

f. Rate = 0.14, Value = \$425,310

g. Value = \$248,600, Rate = 0.15

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h. Income = \$8,525, Value = \$100,000

i. Value = \$105,000, Income = \$10,500

j. Value = \$650,000, Income = \$75,000

2. A property has a total market value of \$1,000,000. The improvements have a value of \$800,000. The property produces \$125,000 in net operating income. Of that amount, \$32,000 is recapture income; the remainder is discount income. What is the recapture rate? The discount rate? The building cap rate?

Hint – This is not a band of investment problem, and it is not asking for the overall cap rate. Breakdown the income for the building and the discount.

Total Income (I _P)	\$125,000
Recapture Income (I _B)	<u>\$ 32,000</u>
Discount Income	\$ 93,000

a. Recapture Rate

b. Land Rate

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c. Building Rate is equal to the Land Rate plus the recapture rate.

3. To load or not to load?

a. NOI After Taxes - \$252,685

Tax Rate \$1.87

Cap Rate – 10.78%

b. NOI After Taxes - \$ 97,243

Tax Rate \$1.36

Cap Rate – 9.43%

c. NOI Before Taxes - \$25,846

Tax Rate \$2.10

Cap Rate – 11.85%

d. NOI Before Taxes - \$185,369

Tax Rate \$2.45

Cap Rate – 9.54%

e. NOI Before Taxes - \$57,456

Tax Rate \$1.96

Cap Rate – 8.73%

f. NOI After Taxes - \$75,000

Tax Rate \$1.28

Cap Rate – 13.27%

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g. NOI Before Taxes - \$35,851

Tax Rate \$1.59

Cap Rate – 10.57%

h. NOI Before Taxes - \$48,952

Tax Rate \$1.79

Cap Rate – 7.49%

i. NOI After Taxes - \$1,259,485

Tax Rate \$2.95

Cap Rate – 9.56%

j. NOI After Taxes - \$946,741

Tax Rate \$3.15

Cap Rate – 14.84%

4. Land is 15% of a total property value. The discount (return ON) rate is 12%. The recapture rate is 4%. What is the overall capitalization rate?

Component	%	X	Rate		Solution
-----------	---	---	------	--	----------

5. The property has a building to property ratio of 3:4. The building cap rate equals 14.5%. The recapture rate equals 2.5%. What is the overall cap rate?

Component	%	X	Rate		Solution
-----------	---	---	------	--	----------

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6. The property has a land to building ratio of 1:4. The land cap rate equals 8.5%. The recapture rate equals 4%. What is the overall cap rate?

Component	%	X	Rate		Solution
-----------	---	---	------	--	----------

7. An office building has two mortgages. The first mortgage is for 60% of value, has 12% annual interest, with 30-year amortization. The second mortgage is for 20% of value, has 16% annual interest with 30-year amortization. The owner anticipates an 18% equity cap rate. Using the band of investment method, what is the indicated overall cap rate?

NOTE: The mortgage constant for 12% annual interest for 30 years is .124144. (Mortgage cap rate)
 The mortgage constant for 16% annual interest for 30 years is .161886. (Mortgage cap rate)

Component	%	X	Rate		Solution
-----------	---	---	------	--	----------

8. Projects comparable to the subject typically have a 50% first mortgage and a 25% second mortgage. The first mortgage is for 12.5% annual compounding for thirty years. The second mortgage terms are 14% annual compounding for thirty years. The equity capitalization rate equals 15.25%. What is the overall cap rate?

The mortgage constant for 12.5% annual interest for 30 years is .128760. (Mortgage cap rate)

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The mortgage constant for 14% annual interest for 30 years is
.142803. (Mortgage cap rate)

Component	%	X	Rate		Solution
-----------	---	---	------	--	----------

9. An office building has a net operating income of \$104,000. The following information on sales of other office buildings in area is available. What is the appropriate overall capitalization rate and why? What is the estimated appraised value?

Comp	Sale Price	NOI	Rate
1	\$ 1,176,000	\$ 147,000	
2	\$ 735,700	\$ 103,000	
3	\$ 544,000	\$ 87,000	
4	\$ 757,000	\$ 106,000	

**VALUE OF
SUBJECT**

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10. Calculate the property value using direct capitalization using a 14% cap rate.

Potential Gross Rent	\$245,875
Secondary Income 5% of EGR	
Depreciation	\$ 42,495
Property Taxes	\$ 20,174
Miscellaneous	\$ 2,015
Income Tax	\$ 35,769
Salaries	\$ 28,000
Supplies	\$ 585
VCL is 15%	
Utilities	\$ 82,000
Management 5% of EGI	
Insurance	\$ 3,500
New Pool	\$ 54,000
Reserves	
HVAC - \$25,000, 15-year life	
Painting - \$12,000, 12-year life	
Roof - \$35,000, 20-year life	

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ANSWER TO 10

RECONSTRUCTED OPERATING STATEMENT

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11. Given the following information, calculate an estimate of the property value:

EGI	\$100,000
Cap Rate	.12
Expenses	\$22,000

NOTES:

Section Ten: Personal Property Appraisal

Class III: 14 Questions

Class IV: 17 Questions

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A. Definitions

Book Value of Inventory	The acquisition cost to the business to acquire the inventory, which is entered on the “books” (financial records).
Book Value of Use Items	The acquisition cost to the business to acquire the asset, which is entered on the “books” (financial records), less any IRS allowed depreciation.
COGS	Cost of Goods Sold.
Density Methods	Use of tables or schedules that show typical property value per unit of measure for types of property with certain characteristics. Known as the “square foot method,” the “personal inspection method,” or the “comparison method.”
Domicile	Legal residence of the owner of subject property. Domicile situs requires level of trade of owner with inventory.
FIFO	First in, first out inventory accounting system. The inventory items with the oldest historical cost are removed from the company books first. This is a more accurate method of cost accounting as it will more closely reflect the cost of inventory as of the date of appraisal.
Fixture	Personal property that has been attached to the real estate in a way that removing the personal property would damage the real estate, is it required to use the real property or if the intent of the owner were to make the personal property part of the real estate. The personal property is now part of the real estate.
Floor Plan Agreement	When a retailer finances the purchase of merchandise inventory with a financial institution or the supplier of the inventory.
Gross Margin Method	Inventory accounting method to adjust fiscal year to calendar year or adjust books due to company merger.

NOTES:

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Intangible Personal

Property	Personal property that cannot be subjected to the senses.
Level of Trade	Merchandise items may be divided into these classes: 1) primary producer 2) manufacturer 3) wholesaler-distributor 4) retailer.
LIFO	Last in, first out. An accounting method that removes the cost of the most recently acquired goods from the accounting records first, leaving the inventory with the oldest acquisition date on their books. This method is the least accurate method of acquisition cost because prices tend to rise, and those historical items usually have a lower acquisition cost. Companies that use LIFO should have a LIFO Reserve to report in addition to the inventory cost.
Market Value of Inventory	Defined by the Texas Property Tax Code 23.12 as the price for which inventory would sell as a unit to a buyer who would continue the business.
Merchandise & Use Items	Major classification of tangible personal property.
Merchandise Inventory	Goods held for the purpose of sale.
Mobilia Rule	Property is taxable at the domicile of the owner (DOMICILE SITUS) IF it does not acquire an actual situs (ACQUIRED SITUS) of its own by being more or less permanently located at one place.

NOTES:

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Personal Inspection

Method See Density Method.

Personal Property All property that is not real property.

Retail Mark Up Finding the retail percent market up and then using it to reduce the retail prices back to cost for the year-end inventory value.

Salvage Value When a use item is no longer used but someone will buy it in its current condition, fix it up and put it to use.

Scrap Value When a use item is no longer used and can be sold only for the value of the parts that make it up.

Situs Taxable situs means jurisdiction or location to tax the subject property.

Square Foot Method See Density Method

Tangible Personal

Property Personal property that can be subjected to the senses.

Use Items Goods that have reached the use for which they were originally intended.

Value in Use The contributory value when a use item is still useful, even though its remaining economic life (or its book value) is zero.

Weighted Average or

Average Cost Method The total cost of the inventory including all purchases made during the year is divided by the total number of items in the inventory throughout the year to get an average cost per item. This average cost per item is then multiplied by the number of items in the inventory at the year's end to get a cost estimate for the year-end inventory.

NOTES:

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B. Discovery Of Personal Property – Process

1. Locate
2. Taxability
3. Jurisdiction (situs)

C. Personal Property Discovery (Locate) Tools

1. Previous year's appraisal roll
2. Personal Property renditions
3. Local publications (newspaper and magazines)
4. State Comptroller's Office (sales tax data)
5. Telephone and city directories.
6. County Clerk's "DBA" and assumed name records.
7. Government agencies and utilities
8. Field Inspections

D. Situs

1. The actual or assumed location of a property for purposes of taxation. Tax Code Section 21.02 states the rules for determining situs.
 - a. Tangible Personal Property is taxable by a jurisdiction if:
 - 1) It is located in the unit on January 1 for more than a temporary period. The date may be September 1 if the property owner has filed an application requesting this date, and the chief appraiser granted the request. (acquired situs)
 - 2) it normally is located in the unit, even though it is outside the unit on January 1, if it is outside the unit only temporarily. (acquired situs)
 - 3) it normally is returned to the unit between uses elsewhere and is not located in any one place for more than a temporary period; (acquired situs) or
 - 4) the owner resides (for property not used for business purposes) or maintains the owner's principal place of business in this state (for property used for business purposes) in the unit and the property is taxable in this state but does not have a taxable situs pursuant to Subdivisions (1) through (3) of this subsection. (domicile situs)

NOTES:

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NOTES:

Fixture Rule or Guideline

PERSONAL PROPERTY

The item is movable

The item may be moved without damage to the real estate.

The intent of the owner is that the item is subject to being moved.

REAL PROPERTY

The item is permanently affixed to the real property

The item may not be moved without damage to the real estate.

The intent of the owner is that the item be used permanently as it is, attached to the real estates.

E. Total (Absolute) Exemption

1. US Government Property.
2. Goods-in-transit Interstate. (goods stopped for business advantage are taxable)
3. Foreign Government Property by US Treaty.
4. State and Local Government Property.
5. Religious Organizations.
6. Schools. (public and private)
7. Trifold Youth Organizations.
8. Non-profit Organizations.
9. Institutions of Purely Public Charity.
10. Farm Products in the hands of the Producer.
11. Implements of Husbandry.
12. Intangible Personal Property except some insurance companies, railroads, toll roads, ferries, and oil pipelines.
13. Private Vehicles and recreational boats not used for the production of income.
14. Household goods and personal effects not used to produce income.
15. Solar and wind-powered energy devices.
16. Pollution Control Equipment.
17. Foreign Trade Zones and

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18. Freeport Goods.

NOTES:


F. Partial Exemption

1. Part of the value of a property a disabled veteran owns.
2. Amount is based on the percentage of disability.

G. Freeport Goods (Sec. 11.251)

1. Considered temporary if goods leave Texas before 175 days have expired.
2. Calculation of Freeport exemption – Inventory value as of January 1 times the ratio of cost of Freeport goods sold in the prior year to total cost of goods sold (prior year).

“Freeport “ Exemption Example



Inventory Cost as of 01/01 = \$16,000,000
Cost of Goods Sold (prior year) = \$12,000,000
Cost of Freeport Goods Sold (prior year) = \$8,000,000

$$\frac{\$8,000,000}{\$12,000,000} = .66667$$
$$\$16,000,000 \times .66667 = \$10,666,667$$

Therefore, the amount of the exemption for the current year

\$10,666,667

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H. Allocation of Vehicle Value

1. Allocation refers to the process of dividing a whole into its components.
2. The chief appraiser in the county where situs has been established allocates the market value to reflect the property's use in Texas.
3. The allocation factor is based on guidelines from the Comptroller's office. These guidelines allow the chief appraiser to use differing guidelines to better reflect the usage of the vehicle.
4. Examples of methods for allocation include using the number of miles in Texas versus the number of miles outside of Texas; the number of days the vehicle was in the state versus the number of days outside the state; or any other method that would produce a ratio to be used for the value calculation. It simply needs to make sense.

Here is an example using days for the allocation factor:

Allocation Example:



Truck with \$100,000 market value travels regularly between Beaumont, Texas and Lake Charles, Louisiana. If the truck spent 200 days in Texas in 2012, then the allocated value in Texas would be \$54,790

$$200 \text{ DAYS} \div 365 \text{ DAYS} = .5479$$

$$\$100,000 \times .5479 = \mathbf{\$54,790}$$

Total value times the allocation factor

Mileage could be used instead of days in a problem like this one!

I. Appraisal Depreciation for BPP

1. To an appraiser, depreciation is the process of measuring the loss in value of an asset.
2. An appraiser is trying to determine the market value of the asset.
3. Book value, used by the accountant, may or may not reflect actual market value.

NOTES:

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4. Loss in value may come from physical depreciation (wear and tear on the equipment), functional obsolescence (outdated computer due to new technology), or external obsolescence (EPA preventing the use of Naptha based dry cleaning equipment).
5. There are different methods of depreciation.
 - a. The straight-line method reduces the value of the asset equally each year over the life of the asset.
 - b. A declining balance method of depreciation allows for the largest depreciation to occur in the earliest years of use of the item.

NOTES:

J. Methods Of Depreciating an Asset

1. There are several acceptable methods of determining the annual depreciation of an asset.
2. These methods fall into two categories: straight-line and accelerated. Here are some of the more common methods:
 - a. **Straight-Line Depreciation Method**
 - 1) The simplest and most commonly used depreciation method is straight-line depreciation.
 - 2) It is calculated by taking the purchase or acquisition price of an asset, subtracting the salvage value, and dividing by the total productive years the asset can be reasonably expected to benefit the company (referred to as useful life in accounting terms).

Straight-line Depreciation Calculation:

$$\frac{(\text{Purchase Price of Asset} - \text{Approximate Salvage Value})}{\div \text{Estimated Useful Life of Asset}}$$

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Example: A business buys a new computer for their business costing approximately \$5,000. The expected salvage value is \$200 selling parts when disposed.

$(\$5,000 \text{ purchase price} - \$200 \text{ approximate salvage value}) \div 3 \text{ years estimated useful life}$.

The answer, \$1,600, is the depreciation charges that the business would take annually using the straight-line method.

b. Accelerated Depreciation Methods

- 1) The useful life of many assets does not follow a straight line, so accelerated depreciation, which puts most of the expense of the asset in the first years, may be used.
- 2) Depreciation on autos, for example, is accelerated.

c. Sum of the Years Digits Method (SOYD)

- 1) To calculate depreciation charges using the sum of the year's digits method, take the expected life of an asset (in years), count back to one, and add the figures together.

2) Example of the Sum-of-the-Years=Digits Method

Cost:	\$1,000		
Estimated Life:	5 Years		
Salvage Value:	\$100		
Depreciable cost is \$1,000 - \$100, or \$900			
Denominator is 1 + 2 + 3 + 4 + 5, or 15.			
	1 st Year	$5/15 \times \$900$	= \$300
	2 nd Year	$4/15 \times \$900$	= \$240
	3 rd Year	$3/15 \times \$900$	= \$180
	4 th Year	$2/15 \times \$900$	= \$120
	5 th Year	$1/15 \times \$900$	= \$60
Total Depreciation			\$900

NOTES:

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d. Declining Balance Methods

- 1) To use it, first calculate depreciation as if using the straight-line method.
- 2) Then figure out the total percentage of the asset that is depreciated the first year and double it.
- 3) Then each year, that same percentage is multiplied by the remaining balance to be depreciated.
- 4) At some point, the value will be lower than the straight-line charge, at which point, the declining method will be scrapped and straight-line used for the remainder of the asset's life. (The following example illustrates a double declining method)

Example of the Declining Balance Method

Cost	\$5,000
Life	5 Years
Straight Line	20%
Double Declining	$20\% \times 2 = 40\%$

1st year	\$ 5,000	40%	\$ 2,000	\$ 3,000
2nd year	\$ 3,000	40%	\$ 1,200	\$ 1,800
3rd year	\$ 1,800	40%	\$ 720	\$ 1,080
4th year	\$ 1,080	40%	\$ 432	\$ 648
5th year	\$ 648	40%	\$ 259	\$ 389
6th year	No further depreciation			

NOTES:

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e. Modified Accelerated Cost Recovery System (MACRS)

- 1) MACRS is what the Internal Revenue Service (IRS) wants businesses to use for calculating depreciation.
- 2) Under this method, all assets are lumped into categories, and each category comes with a specific depreciation schedule.
- 3) For example, all office furniture is considered seven-year property, while all computers are considered five-year property.
- 4) Each property class comes with its own preset annual expense percentages.

f. Units of Output or Service Hours Method

- 1) In the units of production method of depreciation, depreciation is charged according to the actual usage of the asset.
- 2) In the units of production method, higher depreciation is charged when there is higher activity and less is charged when there is a low level of operation.
- 3) Zero depreciation is charged when the asset is idle for the whole period.
- 4) This method is similar to straight-line method except that the life of the asset is estimated in terms of the number of operations or the number of machine hours.
- 5) Such a method is useful where a company has many fixed assets with varying usage.
- 6) Formula: The annual depreciation expense is determined by $(\text{cost} - \text{salvage value} / \text{expected units of use}) \times \text{annual use}$

NOTES:

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Example of the Units-of-Output Method

Cost: \$1,000

Estimated Life: 100,000 units of production

Salvage Value: \$100

Value:

(\$1,000 - \$100) divided by 100,000 is .009, or 9/10 cents per unit

1 st Year	25,000 units x .009	=	\$225.00
2 nd Year	17,500 units x .009	=	\$157.50
3 rd Year	30,000 units x .009	=	\$270.00
4 th Year	27,500 units x .009	=	\$247.50

Total Depreciation **\$900.00**

NOTES:

g. Age/Life Method and Percent Good

- 1) The age-life method of depreciation determines the effective age of an asset for the purposes of calculating depreciation.
- 2) The effective age differs from the actual age because it is based on the amount of wear and tear that the asset has sustained during its life.
- 3) Excessive wear and tear in comparison to the actual age means that the asset is assigned an effective age that is greater than its actual age.

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Example of the Age/Life Method

Total Economic Life:	20 years
Actual Age (chronological):	8 years
Effective Age:	4 years
Replacement Cost New:	\$1,000

Effective Age divided by Total Economic Life

$$4 / 20 = .20, \text{ or } 20\%$$

$$\$1,000 \times .20 = \$200$$

Total Depreciation \$200.00

NOTES:

h. Indexing or Trending Values

- 1) When attempting to place a value on a particular piece of personal property, the only cost information available is old and most likely out of date.
- 2) When there are no other good options, attempting to estimate the effect of inflation on cost may be an option.
- 3) To make this estimate, one has to ascertain the rate of inflation on specific industries over the number of years from when the item was new and the date of appraisal.
- 4) Index or trend factor information can be found in various publications or cost guides.

Example

Original Equipment Cost \$100,000

Purchase Year 2000

Cost Index in 2000 was 1000.

Cost Index in 2020 is 1200.

Current Cost Index / Original Cost Index = Cost Multiplier
X Original Cost = Indexed Cost

$1200/1000 = 1.20 \times \$100,000 = \$120,000$ (then apply depreciation as warranted)

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K. Level of Trade – Cost of Inventory

LEVELS OF TRADE	
Primary Producer (Raw Materials)	Total Cost of Inventory +Profit
Manufacturer (Raw Materials) (Goods in Process) (Finished Goods)	Total Cost of Inventory +Profit
Wholesale/Distributor	Total Cost of Inventory +Profit
Retailer (Goods for Sale)	Total Cost of Inventory +Profit
Consumer (Use Items)	Total Cost of Use Item

NOTES:

L. Methods to Value Business Personal Property Inventory

1. **Current Replacement Cost** – The current cost to replace the inventory on hand as of the date of appraisal.

a. Example:

Tractor bearings cost \$15.00 each and cost \$1.00 to ship plus \$1.00 for extra package costs. The manufacturer offers a discount of 10% for tractor supply companies that purchase more than 25 per shipment. A company needs to purchase 30 to stock up for the spring planting season. What will be the cost of inventory?

ITEM	QUANTITY		EACH	EXTENSION
Bearings	30	X	\$ 15.00	\$ 450.00
Discount			10%	\$ (45.00)
Subtotal				\$ 405.00
Shipping	30	x	\$ 1.00	\$ 30.00
Packaging	30	x	\$ 1.00	\$ 30.00
			TOTAL	\$ 465.00

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NOTES:

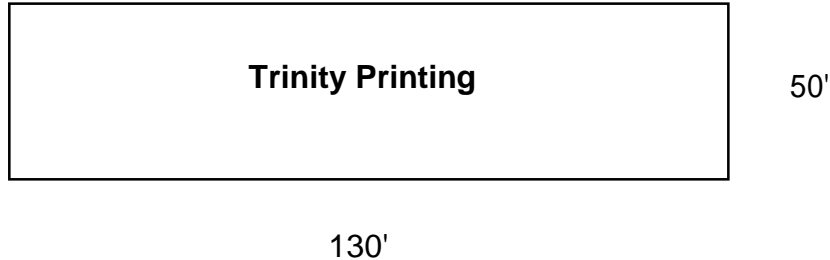
- b. NOTE: Discounts affect the cost per unit, NOT shipping and handling costs.
 - c. Total cost of inventory is equal to acquisition cost plus freight and handling minus discounts and returns.
- 2. Density Methods** – Use of tables or schedules that show typical property value per unit of measure for types of property with certain characteristics.
- a. Known as the “square foot method,” the “personal inspection method,” or the “comparison method”.
 - b. Value in a schedule is equal to replacement cost new (RCN) - A specific method for using area measurement and a density cost factor to estimate the market value of inventory.
 - c. Appraisers follow a five-step process to arrive at market value of a subject inventory using a density schedule.
 - 1) Classify the subject property on the basis of business type (beauty salon, supermarket, etc.) and the level of trade of the business.
 - 2) Measure the space in which the company maintains the inventory. Note the density and quality, any special features of the property such as location in a mall, and inventory not typical of businesses of that type.
 - 3) Select the inventory schedule value from the category that best describes the property.
 - 4) Adjust the schedule value to reflect any special features of the subject property.
 - 5) Multiply the value from Step 4 by the unit of measure from Step 2 to estimate the market value of the subject inventory.

Example:

The subject is a medium-sized commercial printer with a good mix of inventory. The inventory is considered good quality with average density.

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NOTES:



Inventory

QUALITY

D
e
n
s
i
t
y

	Fair		Average		Good	
Sample Property	Small printer with little supply		Medium printer, average mix of inventory		High end printer caters to high quality businesses in the city	
Low	1	6.50	4	11.40	7	26.20
Average	2	10.30	5	21.60	8	36.30
High	3	16.70	6	31.40	9	46.40

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Appraising inventory using a density schedule, is as follows:

- 1) Classify the business as a commercial printer, SIC 2759.
- 2) Note that this store is a medium-sized printing company with inventory of good quality and average density. Measure the area of the plant.
$$50' \times 130' = 6,500 \text{ sf}$$
- 3) Find the schedule factor for average density, average quality. It is \$36.30 psf.
- 4) Adjust the schedule factor as required. No adjustments required.
- 5) Multiply the adjusted factor times the area to estimate market value.

$$\$36.30 \times 6,500 \text{ sf} = \$235,950$$

NOTE: *Inventory can lose value to any one of or all three of the forms of depreciation. Depreciation is not typical for inventory, but one may find loss in the food business.*

3. Appraisal of Inventory Using Accounting Records

a. Weighted Average or Average Cost Method

- 1) The total cost of the inventory including all purchases made during the year is divided by the total number of items in the inventory throughout the year to get an average cost per item.
- 2) This average cost per item is then multiplied by the number of items in the inventory at the year's end to get a cost estimate for the year-end inventory.
- 3) This method is only accurate when inventory is very similar in cost and type. A \$0.99 Store is a good example.

NOTES:

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NOTES:

EXAMPLE:

Total Annual Purchase Amount	\$528,000
Total # Units Purchased	1,200,000
# Units on Hand	4,546

$\$528,000 / 1,200,000 = \0.44 per unit

$4,546 \text{ Units} \times \$0.44 \text{ per Unit} = \mathbf{\$2,000.24}$

b. LIFO

- 1) Last in, first out.
- 2) An accounting method that removes the cost of the most recently acquired goods from the accounting records first, leaving the inventory with the oldest acquisition date on their books.
- 3) This method is the *least dependable* method of acquisition cost because prices tend to rise, and those historical items usually have a lower acquisition cost.
- 4) Companies that use LIFO should have a LIFO Reserve to report in addition to the inventory cost.

c. FIFO

- 1) First in, first out inventory accounting system.
- 2) The inventory items with the oldest historical cost are removed from the company books first.
- 3) *This is a more accurate method of cost accounting as it will more closely reflect the cost of inventory as of the date of appraisal.*

d. Retail Mark Up Method or Retail Method

Finding the retail percent market up and then using it to reduce the retail prices back to cost for the year-end inventory value.

- 1) Retailers generally use the cost of an item and increase the price or “mark it up” by a percentage to calculate the retail price.

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- 2) The retailer has used the actual cost for the base of the market up and multiplied.
- 3) To get back to the cost we must use the opposite mathematical operation, or divide.

Example:

Retail Value January 1 = \$245,875 with a 35% Mark-Up

Mark-Up Factor = $1 + .35$ or 1.35 **FORMULA ALERT**

$\$245,875 / 1.35 = \$182,130$

Now check the math, if the calculated cost is \$182,130 and we know the mark up is 35%, do we get back to the reported retail value of \$245,875?

e. Gross Margin Method or Gross Profit Method

- 1) Inventory accounting method to adjust fiscal year inventory to calendar year or to adjust company books when a merger occurs.
- 2) This method uses the most recent physical inventory records and then makes adjustments based on inventory added, sales that have occurred and the cost of sales ratio.
- 3) The Cost of Sales Ratio, or profit can be calculated by dividing the Cost of Goods Sold (COGS) in the previous period by Sales in the Previous Period. (Calculated on next page)
- 4) Next, we reduce the retail value of the sales for this period to cost by multiplying by the Cost of Sales Ratio to get all of our inventory information to cost.

Gross Margin Method Example:

Cost of goods sold in the previous period (COGS)	=	\$584,275
Sales in the previous period	=	\$798,123
Cost of sales ratio	=	0.7321
Sales for the current period at retail	=	\$216,817
Beginning inventory at cost	=	\$467,258
Purchases this period at cost	=	\$97,432

NOTES:

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NOTES:

Calculate the following:

Cost of sales ratio

COGS divided by the Sales in the previous period.

$$\$584,275 / \$798,123 = 0.7321$$

Beginning inventory at Cost	\$467,258
-----------------------------	-----------

Purchases this period at cost	\$ 97,432
-------------------------------	-----------

Sales this period at cost

\$216,817 X 0.7321 =	<u>(\$158,732)</u>
----------------------	--------------------

Value of inventory at cost	\$405,958
----------------------------	-----------

M. APPRAISAL OF USE ITEMS (F&F, M&E, OTHER NON-REALTY ITEMS)

1. Cost Approach – Replacement Cost New Less Depreciation - (RCNLD)

Sources of RCN:

- Cost Schedules or Cost Guides.
- Observed Condition Method.
- Historical Cost Indexing.

2. Density Schedules - Use Items

- Examine the rendition and/or inspect the property to classify it; estimate effective age, quality and density; measure the area (usually square footage) where the property is located.
- Find the unit cost on a schedule for that type of property with similar density and quality characteristics. (Similar to inventory valuation)
- Find percent good remaining using typical economic life from the density schedule and estimate of effective age.
- Adjust the schedule value for percent good remaining.
- Multiply the adjusted schedule value times the square footage to estimate market value.

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NOTES:

EXAMPLE:

An eight-year-old convenience store (SIC 5411) with average quality/high density furnishings and equipment is being appraised. The FF&E is in an area that has 1,400 square feet. What is the estimate of market value? (Note actual age equals effective age).

DENSITY SCHEDULE

Convenience Store SIC 5411 – NAICS 445120

FF&E

		QUALITY		
DENSITY		FAIR	AVERAGE	GOOD
	LOW	5.00	9.00	14.00
	AVERAGE	6.00	10.00	17.00
	HIGH	7.00	11.00	20.00
		Life Years = 12		

DEPRECIATION GUIDE

PERCENT GOOD

EFFECTIVE AGE	TYPICAL LIFE EXPECTANCY							
	5	8	10	12	15	20	25	30
8		.26	.39	.50	.62	.74	.81	.86
9		.22	.30	.43	.55	.70	.78	.81
10		.20	.24	.36	.49	.65	.75	.82

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Solution:

$$1,400 \text{ square feet} \times \$20.00 \text{ sf} = \$28,000 \text{ RCN}$$

$$\$28,000 \text{ RCN} \times .50 \text{ (\% good)} = \$14,000 \text{ RCNLD}$$

3. Observed Condition Method

Example:

The replacement cost of a forklift is \$165,000. The forklift is estimated to be 8% depreciated based on its effective age and economic life.

$$100\% - \% \text{ depreciation} = \text{percent good}$$

$$100\% - 8\% = 92\% \text{ good}$$

$$\$165,000. \times .92 = \$151,800 \text{ RCNLD}$$

4. Cost Indexing

- a. Replacement cost is equal to acquisition (historical) cost times the index multiplier.

$$\text{RCNLD} = \text{Historical Cost} \times \text{Index Multiplier} \times \text{Percent Good.}$$

- b. This is the same process as indexing used in real property Cost Approach Trended Historical Cost.

Example:

A Caterpillar Excavator cost \$65,000 in 1997. What is the trended historical cost less depreciation (RCNLD)?

$$2024 \text{ Index} - 2001.5$$

$$1997 \text{ Index} - 1228.3$$

$$\text{Physical Age} - 27 \text{ years (23\% Good)}$$

$$\text{Effective Age} 15 \text{ years (57\% Good)}$$

Calculation: $(\text{Current year index}/\text{Historical Year index}) \times \text{Cost} \times \text{Percent Good}$

(FORMULA ALERT)

$$(2001.5/1228.3) * 65,000 * .57 = \$60,373$$

- c. By examining the indices, we can see the cost of the equipment has increased as the current index is larger than the historical index. This will be true in most situations due to inflation.

NOTES:

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5. **Price Guides in Appraising Use Items:** (national or built locally)
- a. Examine the rendition and inspect subject property in order to classify it.
 - b. Be alert to special features and reconditioning that will add to the value.
 - c. Estimate effective age, condition and degree of use aspects that will decrease value.
 - d. Find the price of typical personal property of that type in a price guide.
 - e. Calculate adjustments and modify the price according to directions the guide provides.
 - f. Estimate the market value of the item using the adjusted price and any additional information that affects the value.

Complete review questions.

NOTES:

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Review Questions: Personal Property Appraisal

1. **A manufacturer purchased equipment in 2010 for \$9,345. The cost index for 2010 is 629. The cost index for 2024 is 901. What happened to the cost of equipment like this between 2010 and 2022?**
 - a. The price of this equipment remained the same, but inflation increased.
 - b. The cost of equipment like this increased. $846/628 = 1.432$
 - c. The cost of this equipment rose by a factor of 735.
 - d. The cost of this equipment declined.

2. **Use the table following this page to determine the percent of normal depreciation for a machine with an effective age of 8 years and a 10-year economic life.**
 - a. 41%
 - b. 20%
 - c. 80%
 - d. 59%

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Normal Depreciation					
Age	Economic Life				
	5 Yrs.	8 Yrs.	10 Yrs.	12 Yrs.	15 Yrs.
1	15	10	8	6	5
2	29	18	13	10	10
3	44	28	18	14	15
4	61	39	24	17	21
5	72	48	30	20	27
6		58	38	27	32
7		66	49	35	38
8		70	59	41	45
9			68	52	50
10			70	59	54
11				65	58
12				67	62
13				69	65
14					67
15					69
16					70

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3. Which property item is not an example of real property?
- a. Mineral interest
 - b. Standing timber
 - c. Communication tower
 - d. Gravel pit
4. Which of the following property items is not exempt from property taxation?
- a. Property owned by the County compactor.
 - b. A U.S. Air Force jet
 - c. Property belonging to a non-profit elementary school.
 - d. A computer leased by a state senator's office.
5. Which of the following does a Texas taxing unit have jurisdiction to tax?
- a. U.S. government property in Abilene, Texas
 - b. Inventory next to a Foreign Trade Zone.
 - c. A moving van that stops overnight in Amarillo on a trip between Oklahoma and Arizona
 - d. Property in Lake Charles owned by resident of El Paso
6. Which is the best definition of "depreciation"?
- a. The age of a property in terms of condition and usefulness.
 - b. The decrease in market value that arises from a property's loss of usefulness.
 - c. The cost of repairs and maintenance required prior to the sale of a property item.
 - d. The return on an investment in a given type of property in a given market.

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7. What is the best definition for “effective age” of an item of property?
- a. Effective age measures the age of property in terms of condition and usefulness.
 - b. Effective age is the amount of value remaining in an item.
 - c. Replacement cost new times the index factor gives effective age.
 - d. Effective age is the chronological age of personal property.
8. A computer is 32 percent good. Which arithmetic operation should be used to determine the current value of the computer?
- a. .32 times the replacement cost
 - b. Acquisition cost divided by 1.32.
 - c. Replacement cost minus .32
 - d. Replacement cost divided by 32.
9. An automobile with a replacement cost of \$54,956 has depreciated 20 percent. How much value has the automobile lost?
- a. \$43,965
 - b. \$53,857
 - c. \$10,991
 - d. \$1,099

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10. A business uses the average cost method to estimate its cost of inventory. On December 31, this company had 3,782 items on hand. The following information was obtained from its purchase journal.

Date	# Units Purchased	Amount Paid
1-Feb	5,000	\$ 7,600
1-Mar	4,800	\$ 7,440
1-Apr	4,500	\$ 7,020
1-May	6,000	\$ 9,480
1-Jun	12,000	\$ 19,200
1-Jul	3,000	\$ 4,890
1-Aug	4,200	\$ 6,888
1-Sep	4,500	\$ 7,380
1-Oct	4,800	\$ 7,920
1-Nov	4,200	\$ 7,056
TOTALS	53,000	\$ 84,874

What is the cost of the ending (12/31) inventory by the average cost method?

NOTE: Carry the average cost of one (1) item to four (4) decimal places. =

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11. The local department store uses the retail mark-up method for determining inventory valuation. On December 31, an inventory count was taken of the store and the following facts were determined:

Retail value of clothing - \$895,342.00

Retail value of accessories - \$276,957.00

The store uses a 35% mark-up for clothing and 55% mark-up for accessories.

What is the cost of the clothes inventory? _____

What is the cost of the accessories inventory? _____

12. An audit of the books and records of this company reveals the following information:

Fiscal Year July 1, 2022, through June 30, 2023

Actual Physical Inventory at cost on 7/1/2023 \$861,542

Purchases (July through December 2023) at cost \$242,624

Sales (August through December 2021) at retail \$318,800

Mark-up 40%

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13. A wholesaler of flip phones renders the following financial information, and, in addition, tells the appraiser that due to a recent a lack of demand, he believes the true value of his inventory is probably 10% percent less than cost.

RENDERED DATA:

COGS for the previous period		\$985,540
Sales at retail for the previous period		\$1,132,804
Sales for the current period @ Retail	=	\$569,285
Beginning inventory @ Cost	=	\$625,900
Purchases this period @ Cost	=	\$127,600

Calculate the owner's opinion of the market value of the inventory.

Data	Retail	COGS	Cost

14. Appraise the shoe store's tangible business personal property (SIC 5661, NAICS 448210):

SHOE STORE FLOOR PLAN:



The following information is available.:

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- 1) AVERAGE QUALITY, HIGH DENSITY FF&E AND MERCHANDISE INVENTORY
- 2) EFFECTIVE AGE OF FF&E IS 4 YEARS

Schedules:

Inventory Density Schedule

Shoe Store

QUALITY

DENSITY	FAIR	AVERAGE	GOOD
LOW	15.00	25.00	40.00
AVERAGE	20.00	30.00	45.00
HIGH	25.00	35.00	50.00

FF & E Density Schedule

Shoe Store

QUALITY

DENSITY	FAIR	AVERAGE	GOOD
LOW	3.00	5.00	10.00
AVERAGE	4.00	6.50	12.00
HIGH	5.00	8.00	14.00

USE 10 YEAR LIFE EXPECTANCY

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Furniture, Fixtures & Equipment

Percent Good Table

EFFECTIVE AGE	TYPICAL LIFE EXPECTANCY				
	15	12	10	8	5
1	95	94	92	90	85
2	90	87	84	79	69
3	85	80	76	67	52
4	79	73	67	54	34
5	73	66	58	43	23
6	68	58	49	33	18
7	62	50	39	26	
8	55	43	30	22	

NOTES:

The Following Two Sections: Class IV

NOTES:

**Section Eleven:
PTEC Course 5
Mass Appraisal Concepts

Class IV Only – 30 Questions**

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A. USPAP Requirements

1. Mass appraisers are required to follow:
 - a. **Standard 5 - Mass Appraisal, Development**
 - 1) In developing a mass appraisal, an appraiser must be aware of, understand, and correctly employ those recognized methods and techniques necessary to produce and communicate credible mass appraisals.
 - b. **Standard 6 – Mass Appraisal, Reporting**
 - 1) In reporting the results of mass appraisal, an appraiser must communicate each analysis, opinion, and conclusion in a manner that is not misleading.
 - 2) Standard 6 was split in recent years between 5 and 6, but the requirements for appraisals have remained largely unchanged.

B. Economic Principles and Theory

1. The mass appraiser will consider the same economic principles as in using the standard approaches to value because Mass Appraisal considers all three approaches.
2. However, Mass Appraisers use statistical analysis to appraise a universe of property.
3. These techniques allow a small group of appraisers to place market value on a large group of property with a certain degree of accuracy.
4. These statistics also provide quality control procedures to ensure that all properties are treated in a fair and uniform manner.

C. Terms Associated with Mass Appraisal

Absolute Value	A number void (without) sign.
Appraisal Accuracy	Market Value. Measures of Central Tendency (MCT) tell us about appraisal accuracy.
Appraisal to Sale Ratio	The relationship between an appraised value and the sale price.

NOTES:

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Appraisal Uniformity	Appraising properties of like type using the same methods and procedures so that no property or class of properties is treated differently than others. Measures of Dispersion tell us about uniformity.
Array	Arrange a list of numbers in order from low to high or high to low.
Average Absolute Deviation	Total average absolute deviations divided by the number of deviations.
Baseline	The value produced by the benchmark property.
Benchmark	A real or imaginary property that is representative of a larger class. A collection of central tendencies.
Bias	Schedules consistently over or under appraise certain types of properties or features. Bias can be found through statistical testing because it is predictable.
Bias Types (Common)	Adjustment, Age, Location, Quality, Size
Central Tendency	Center or typical value for a probability distribution. The statistical mid-point of a set of appraisal ratios by which the overall accuracy of all appraisals in the set are measured.
Classification System Requirements	All properties must fit into a class.
	No property should fit into more than one class.
Coefficient of Dispersion (COD)	Average percentage deviation from the median ratio.
Coefficient of Variation (COV)	Ratio of the standard deviation to the mean
Deviation	The difference between a single ratio and the MCT.

NOTES:

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Dispersion	The degree to which data are distributed around the MCT.
Distribution	The sample has proper distribution when it reflects the market under study.
Error	The amount by which an observation differs from the expected value, an erroneous conclusion.
Mass Appraisal	The process of valuing a group of properties as of a given date, using standard methods, employing common data, and allowing for statistical testing.
Mean	Sum of the observations divided by the number of observations. (Average)
Measures of Central Tendency (MCT)	<i>Mean, Median, Mode, Weighted Mean</i>
Measures of Dispersion	<i>COD, COV, PRD, Range, Percentile, Quartile</i>
Median	Array the data from low to high or high to low. The observation that is in the center of the set is the median. If the set contains an even number of observations, the two observations in the center are averaged together to obtain the median.
Mode	The observation that occurs most often. A set of data may contain more than one mode, but each must occur the same number of times.
Model	See Schedule. Basic Valuation Model = $MV = LV \text{ (Land Value)} + IV \text{ (Improvement Value)}$
Neighborhood	A geographic area that contains similar or complementary property uses that are subject to the same market conditions. Neighborhoods are grouped by physical boundaries, use type, quality of construction and condition.

NOTES:

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Observation	A single piece of data.
Outlier	Observations that fall well outside the normal range, either high or low.
Percentile	Values that divide a set of data that is arrayed into specific percentages and examining the relationship of the parts.
Population	The group under study.
Price Related Differential (PRD)	The PRD is an indicator of appraisal progressivity or regressivity.
Progressivity	Appraisal bias that higher value properties have greater appraisal to sale ratios than lower value properties. (lower priced properties are under-appraised in relationship to higher priced properties) PRD < 1.00
Quartile	Dividing a set of data that has been arrayed in ascending or into four equal parts and examining the relationship of the parts.
Random Error	Not predictable. May be an error in data entry or measurement.
Randomness	Data has no recognizable pattern or regularity.
Range	May be expressed from low to high or the difference between the high and low.
Ratio Study	A study of the relationship between appraised value and market value to determine the level of appraisal.
Regressivity	Appraisal bias that lower value properties have greater appraisal to sale ratios than higher value properties. (higher priced properties are under-appraised in relationship to lower price properties) PRD > 1.00
Reliable	If data produces similar results under consistent conditions, it is said to be reliable.

NOTES:

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Sample	Samples must have adequate size, distribution and be random to be reliable. Avoid time adjustments.
Sample Size	The sample should contain at least 5% of the universe under study and must be sufficient to represent the whole population.
Schedule	A table of unit values based on property characteristic data. May be based on cost, market or income data. The terms Schedule and Model are used interchangeably.
Simple Linear Regression (SLR)	Statistical method that correlates size and value. SLR summarizes relationships between two variables.
Standard Deviation	A measure that is used to quantify the amount of variation or dispersion in a set of data. Used in calculating the COV using parametric statistics.
Universe	A collection of properties defined by political boundaries. Also, called the population or group under study.
Weighted Mean Ratio	An aggregate ratio that gives weight to individual prices and appraisal values. This method can more accurately reflect the information in relationship to each other.

NOTES:

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D. Formulas In Mass Appraisal - Formula Alerts

NOTES:

Absolute Deviation	A:S Ratio - MCT
Appraisal to Sale Ratio (A:S)	Appraised Value / Sale Price
Average Absolute Deviation (AAD)	Sum of Deviations / Number of Deviations
Coefficient of Dispersion (COD)	AAD / MCT = COD (Can be converted to a percentage)
Coefficient of Variation (COV)	Standard Deviation / MCT (Usually the Mean)
Location or Neighborhood Modifier	Desired Mean Ratio (1) / Actual Mean Ratio
Price Related Differential (PRD)	Mean Ratio / Weighted Mean Ratio
Sample Size	Population X 5% (.05)
Schedule Adjustment Factor	Desired Ratio (1) / Actual Ratio
Weighted Mean Ratio	Total Sample Appraised Values / Total Sample Sale Price

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E. Four Basic Steps in Mass Appraisal

1. *Analyze your market.*
2. Develop a property classification system for land and improvements.
3. Build schedules.
4. Test schedules.

F. Planning a Reappraisal

1. *Assess current performance.*
2. Set reappraisal goals.
3. Assess available resources and determine needs.
4. Re-evaluate goals and adjust, as necessary.
5. Develop a work plan.

G. Conducting a Ratio Study

1. Determine the manner in which sales will be categorized.
2. Determine the number of sales to include.
3. Select the study sample.
4. Compare appraised values with actual sale prices.
5. Calculate the actual assessment ratio for each category.
6. Test estimated ratios for reliability.

H. Use of Ratio Studies

1. *Test present appraisal system and/or values.*
2. Test schedules on a pilot basis before using the schedules.
3. Test the Mass Appraisal System to evaluate the system and identify areas of strengths and weakness.
4. Test for equalization.

NOTES:

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I. Measures of Central Tendency

(It's All About Market Value)

1. **Mean:** Add together the following A:S ratios then divide by the number of observations. **FORMULA ALERT**

A:S Ratio	
0.75	
0.88	
0.92	
0.92	
0.98	
0.99	
1.01	
1.01	
1.01	
<u>1.10</u>	
9.57	Total
<u>10</u>	Divide by # of Observations
0.9570	Mean
0.96	Rounded

2. **Median:** Array the data from low to high or high to low. The observation that is in the center of the set is the median.
 - a. If the set contains an even number of observations, the two observations in the center are averaged together to obtain the median.
 - b. The sample on the next page contains an even number of observations.

NOTES:

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Array Number	A:S Ratio
1	0.75
2	0.88
3	0.92
4	0.92
5	0.98
6	0.99
7	1.01
8	1.01
9	1.01
10	1.10
+0.98+0.99=	1.97
Median = 1.97/2	0.99

NOTES:

- c. **Mode:** *The observation that occurs most often. A set of data may contain more than one mode, but each must occur the same number of times.*

Array Number	A:S Ratio
1	0.75
2	0.88
3	0.92
4	0.92
5	0.98
6	0.99
7	1.01
8	1.01
9	1.01
10	1.10
Mode	1.01

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NOTES:

- d. **Weighted Mean:** An aggregate ratio that gives weight to individual prices and appraisal values. This method can more accurately reflect the information in relationship to each other.

#	A:S Ratio	Sale Price	Appraised Value
1	0.75	\$ 950,425	\$ 712,819
2	0.88	\$ 458,963	\$ 403,887
3	0.92	\$ 365,411	\$ 336,178
4	0.92	\$ 384,753	\$ 353,973
5	0.98	\$ 206,485	\$ 202,355
6	0.99	\$ 220,855	\$ 218,646
7	1.01	\$ 231,544	\$ 233,859
8	1.01	\$ 219,755	\$ 221,953
9	1.01	\$ 229,622	\$ 231,918
10	1.10	\$ 125,950	\$ 138,545
		\$3,393,763	\$ 3,054,134
	\$3,054,134	0.8999	
	\$3,393,763	0.90	Weighted Mean

J. Measures of Dispersion

(It's All About Appraisal Uniformity)

1. Appraising properties of like type using the same methods and procedures so that no property or class of properties is treated differently than others.
2. Measures of Dispersion tell us about uniformity.

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- a. **Range:** *May be expressed from low to high or the difference between the high and low.*

A:S Ratio	
0.75	Range 0.75 to 1.10
0.88	or
0.92	$1.10 - 0.75 = 0.35$
0.92	
0.98	
0.99	
1.01	
1.01	
1.01	
1.10	

- b. **Percentile:** Values that divide a set of data that is arrayed into specific percentages and examining the relationship of the parts. Calculated by totaling the number of observations and multiplying by the percentile to determine the value for each. In our example we have ten observations. If the number of observations is not evenly divisible, the appraiser will round up to the next position. See example on next page.

NOTES:

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	A:S Ratio	
1	0.75	$10 \times .10 = 1$ or 0.75
2	0.88	$10 \times .20 = 2$ or 0.88
3	0.92	$10 \times .30 = 3$ or 0.92
4	0.92	$10 \times .40 = 4$ or 0.92
5	0.98	$10 \times .50 = 5$ or 0.98
6	0.99	$10 \times .60 = 6$ or 0.99
7	1.01	$10 \times .70 = 7$ or 1.01
8	1.01	$10 \times .80 = 8$ or 1.01
9	1.01	$10 \times .90 = 9$ or 1.01
10	1.10	$10 \times .100 = 10$ or 1.10

NOTES:

- c. **Quartiles:** Dividing a set of data that has been arrayed in ascending order into four equal parts and examining the relationship of the parts. In the example below, we divide the ten observations into four equal parts using the median. The median of the data set is 98.5. The first half would then be divided again by the median, 0.75 to 0.98, median 0.92. The same process yields a median of 1.01 for the upper half of the data set. The Interquartile range is the difference between the upper quartile (Q3) and the lower quartile (Q1) or 1.01 less 0.92 which equals 0.09. This interquartile range describes the spread or dispersion within the set of data.
- d. See the quartile example on the next page.

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Quartiles	A:S Ratio	
1	0.75	
2	0.88	
3	0.92	Q1
4	0.92	
5	0.98	
6	0.99	
7	1.01	
8	1.01	Q3
9	1.01	
10	1.1	

NOTES:

- e. ***Coefficient of Variation (COV) - Ratio of the standard deviation to the mean. Used mostly in parametric statistics although it is used in Mass Appraisal when the data has been stratified or otherwise modified to mimic parametric data. You do not need to know how to calculate the COV for this test, but it will be a great tool for your job.***
- f. ***Coefficient of Dispersion (COD) - Average percentage deviation from the median ratio. Mass appraisers use COD as a method of measuring dispersion because it is the best method for non-parametric statistics, and this is the method used by the State Comptroller in the PVS. Pay particular attention to the intermediate calculations during the calculation of the COD, such as Total Absolute Deviation (TAD), and Average Absolute Deviation (AAD). This information is just as important as the final answer, the COD.***

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COD Calculation	A:S Ratio	MCT (Median)	Absolute Deviation
1	0.75	0.99	0.24
2	0.88	0.99	0.11
3	0.92	0.99	0.07
4	0.92	0.99	0.07
5	0.98	0.99	0.01
6	0.99	0.99	0
7	1.01	0.99	0.02
8	1.01	0.99	0.02
9	1.01	0.99	0.02
10	1.10	0.99	0.11
+0.98+0.99=	1.97	Total Absolute Deviation	0.67
1.97/2	0.99	Divide by # of observations	10
	Median	Average Absolute Deviation (AAD)	0.067
		Divide by the MCT	0.99
		COD	0.0677
		Convert to percent	6.77%

NOTES:

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NOTES:

- g. **Price Related Differential (PRD):** The PRD is an indicator of appraisal progressivity or regressivity which describes appraisal bias. The example below indicates appraisal progressivity, or that the higher priced properties are under-appraised in relationship to the lower priced properties.

	A:S Ratio	Sale Price	Appraised Value
1	0.75	\$ 950,425	\$ 712,819
2	0.88	\$ 458,963	\$ 403,887
3	0.92	\$ 365,411	\$ 336,178
4	0.92	\$ 384,753	\$ 353,973
5	0.98	\$ 206,485	\$ 202,355
6	0.99	\$ 220,855	\$ 218,646
7	1.01	\$ 231,544	\$ 233,859
8	1.01	\$ 219,755	\$ 221,953
9	1.01	\$ 229,622	\$ 231,918
10	1.10	\$ 125,950	\$ 138,545
Mean Ratio	0.96	\$3,393,763	\$3,054,134
	\$ 3,054,134		
	\$ 3,393,763	= 0.90	Weighted Mean

The PRD in the above grouping is calculated by dividing the mean ratio by the weighted mean.

$$0.96 \text{ mean} / 0.90 \text{ weighted mean} = 1.07 \text{ PRD}$$

The grouping above is regressive, or the higher priced properties are under appraised (have lower appraisal ratios) in relation to the lower priced properties.

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K. IAAO Targets (CODs)

1. Residential new or fairly homogeneous, 10 or less.
2. Other residential 15 or less.
3. Income-producing- urban, 15 or less; others 20 or less.
4. Vacant/unimproved 20 or less.
5. Rural residential and seasonal 20 or less; lower in active markets or homogeneous areas.

L. Basic Steps for Building a Mass Appraisal Schedule

1. *Analyze the market to determine what features (of land and improvements) enhance or detract from value.*
2. Develop a property classification system that defines benchmark properties for each land and improvement category.
3. Build improvement schedules (including depreciation tables, location tables and adjustment tables). (Adjustment tables are usually based on CDST or sales data.)
4. Test the schedule with a ratio study. (Median is the measure of central tendency used in building a schedule.)

M. Correlating Size and Value

1. Rebuilding the improvement schedule
 - a. Economies of scale influence building construction.
 - b. Sale price typically reflects the relationship that the first 1,000 square feet of a building are more costly than the next 1,000 square feet.
2. Correlation
 - a. **Interpolation**

Example:

On the following page there are sale prices per square foot (improvement only) and sizes for nine class 4, single-family residences. Plot the correlation between sale price and size on the graph, and then use interpolation to answer the questions that follow the graph.

NOTES:

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<u>PID</u>	<u>Size</u>	<u>IV/sf</u>
A	1,400	56.00
B	1,450	54.00
C	1,650	52.00
D	1,700	50.00
E	1,750	49.00
F	1,800	44.00
G	1,850	43.00
H	1,950	42.00
I	2,050	42.00

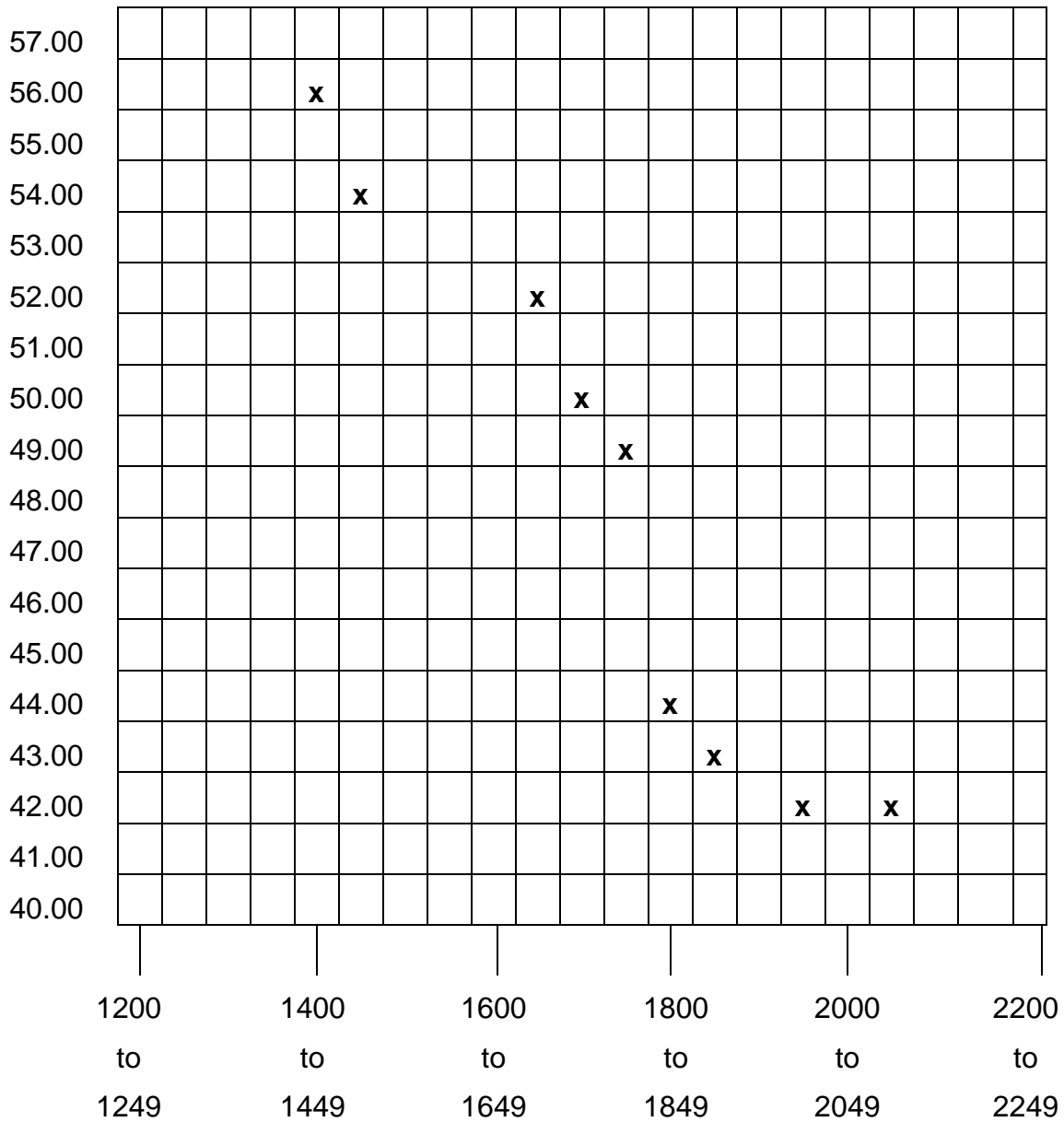
NOTES:

Question:

What is the value per square foot of a class 4, single-family residence of each of the following sizes?

- a. 1,500 sq. ft.
- b. 1,550 sq. ft.
- c. 1,600 sq. ft.
- d. 2,000 sq. ft.

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NOTES:

Solution:

To determine the value per square foot of a 1,500 square foot improvement, first find the correlated pairs that bracket it. These are \$54.00 per square foot and 1,450 and \$52.00 per square foot and 1,650. Then complete the following steps:

Difference in value for 1,450 and 1,650 = $\$54.00 - \$52.00 = \$2.00$

Number of steps = blank increments + 1 = 4

Value change per step = $\$2.00 / 4 = \0.50

Value for 1,600 = $\$52.00 + \$0.50 = \$52.50$

Value for 1,550 = $\$52.50 + \$0.50 = \$53.00$

Value for 1,500 = $\$53.00 + \$0.50 = \$53.50$

The correlated pairs that bracket 2,000 square feet indicate no change in improvement value. The schedule value would therefore be \$42.00.

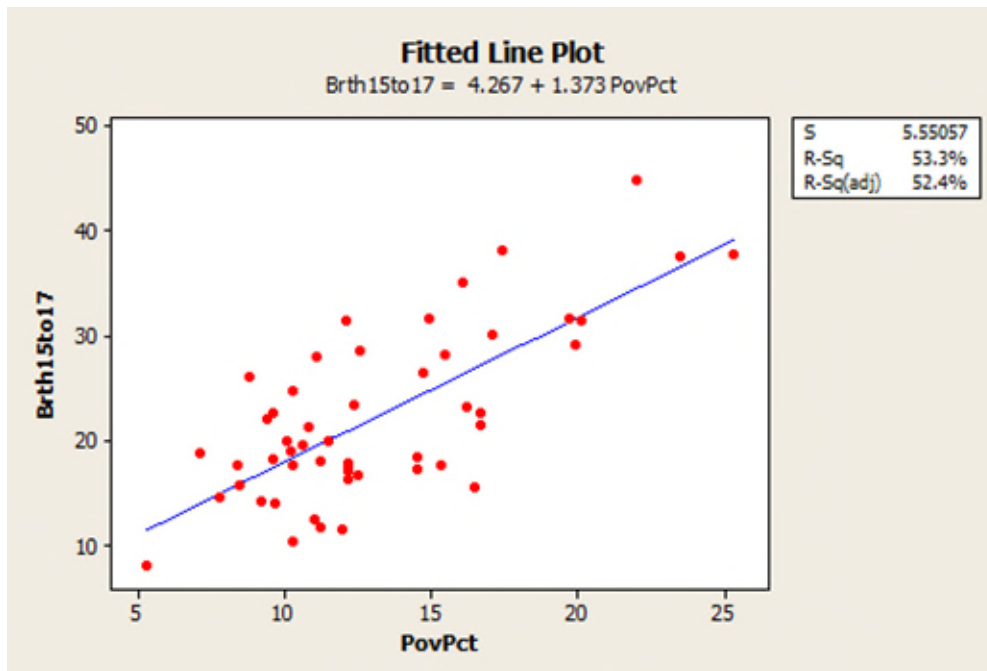
b. Simple Linear Regression

- 1) *Provides a second, more statistically complicated method of correlating improvement size and improvement value.*
- 2) The required mathematics is more complicated than interpolation, but inexpensive hand calculators that do simple linear regression are available.
- 3) *Simple linear regression mathematically correlates the known data and produces a straight line to estimate values.*
- 4) The drawing of that line and totaling the squared deviation of each data point from the line, the result would be lower than the result for any other straight line.

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NOTES:

Example:



N. BIAS

1. *Is a systematic deviation from a desired result that arises when a system ignores or inadequately accounts for a significant variable.*
2. A mass appraisal system aims to predict market value; its desired result is to estimate 100 percent of that value.
3. Bias arises from some feature of the mass appraisal system that makes it incompatible with the market it is supposed to describe.
4. As a result, the system over- or underestimates the value a property feature adds or subtracts.
5. Carefully examining the steps listed above should enable the CAD to isolate the five areas where bias is most likely to arise.
Common types of bias:
 - a. **Quality bias.** The value schedules consistently over- or under-appraise properties in certain quality classes.
 - b. **Size bias.** The value schedules consistently over- or under-appraise properties in certain size ranges.

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- c. **Age bias.** The schedules consistently over- or underestimate the values of properties in certain age range. Because of the way most appraisal districts build depreciation tables, this problem is essentially the same as condition bias.
- d. **Location bias.** The schedules consistently attribute too much or too little value to certain locations.
- e. **Adjustment bias.** Adjustment tables attribute value to features that do not add it, ignore features that do add value, or inadequately judge the added value of features that do influence what buyers will pay.

NOTES:

O. Name that Bias.

LAND

LOCATION	COD	MEAN
Neighborhood A	10	0.89
Neighborhood B	14	0.9
Neighborhood C	16	0.93
Vacant Lots	25	0.75

LOCATION

LOCATION	AGE	CLASS	IMP SF	LOT SF	RATIO
Neighborhood A	25	5	1500	10000	1.1
Neighborhood A	20	5	1600	9500	1.09
Neighborhood A	22	5	1550	9800	1.05
Neighborhood B	25	5	1450	9500	1
Neighborhood B	22	5	1500	9750	0.99
Neighborhood B	20	5	1525	10000	1.01

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AGE

LOCATION	AGE	CLASS	IMP SF	LOT SF	RATIO
Neighborhood A	50	5	1500	10000	1.1
Neighborhood A	45	5	1600	9500	1.09
Neighborhood A	40	5	1550	9800	1.05
Neighborhood B	25	5	1450	9500	1
Neighborhood B	22	5	1500	9750	0.99
Neighborhood B	20	5	1525	10000	0.95

SIZE

LOCATION	AGE	CLASS	IMP SF	LOT SF	RATIO
Neighborhood A	20	5	1800	10000	1.1
Neighborhood A	22	5	1750	9500	1.09
Neighborhood A	25	5	1700	9800	1.05
Neighborhood B	40	5	1650	9500	0.95
Neighborhood B	45	5	1500	9750	0.9
Neighborhood B	50	5	1525	10000	0.9

NOTES:

P. Neighborhood

1. **Definition of a neighborhood** – A neighborhood is an area, which contains complimentary land uses and has similar value influences within a geographic location.
2. Neighborhood boundaries may be natural (such as rivers and or lakes, etc.), political (such as city limit lines, zoning districts, school district boundaries, etc.), or man-made (such as streets, highway, etc.).
3. Neighborhood life cycle
 - a. **Period of growth** – where construction and development occur.
 - b. **Stability** – when supply and demand equalize.
 - c. **Decline** – when demand and desirability diminish.
 - d. **Revitalization** – when a neighborhood becomes economically desirable once again, with rebuilding or restoration.

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Q. Benchmark Property

1. *A benchmark is a property that is typical of a larger class.*
2. Statistically, one can say that the benchmark is a collection of central tendencies that is sufficient to define an entire value class.
3. Alternatively, the benchmark is made up of characteristics common to all properties in a class.
4. For instance, the appraiser is examining a neighborhood made up of tract type homes.
 - a. All of the improvements are between 1500 and 1700 square feet, have two car garages, are wood frame, have central heat and air, have front porches, and some have fireplaces and decks.
 - b. In this neighborhood, the benchmark property would be defined as follows:
 - 1) Use: Single Family Residential
 - 2) Construction: Wood Frame
 - 3) Size: 1500 – 1700
 - 4) Square Feet
 - 5) Amenities: Two Car Garage
 - 6) Central Heat and Air
 - 7) Front Porch
 - c. The benchmark would not include fireplaces or decks because these characteristics are not common to all properties in the category or class.
 - d. To account for the value of the fireplace and decks, the appraiser must use either cost information or market data to adjust for these characteristics.

R. Stratification

1. Ensures that properties chosen represent value related characteristics in the same proportion as they occur in the population:
 - a. By property category.
 - b. By geographic / neighborhood.
 - c. By property value. (Comptroller's value study)

Complete review questions.

NOTES:

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Review Questions: Mass Appraisal

1. In testing building schedules for 105,000 single family residences with a ratio study the appraisal district should try to get a sample size of how many residential properties?
 - a. 10,500
 - b. 105,000
 - c. 5,250
 - d. 2,625
2. Below are ten properties appraised by a CAD. Calculate the mean, median, mode, weighted mean, location adjustment, PRD and COD. Explain the PRD before neighborhood adjustment. Adjust the appraised values using the location adjustment, then recalculate the median and mean appraisal ratios.

Sale Price	Appraised Value
\$ 127,900	\$ 129,179
\$ 123,800	\$ 129,990
\$ 130,000	\$ 137,800
\$ 121,200	\$ 128,472
\$ 124,300	\$ 133,001
\$ 125,000	\$ 137,500
\$ 124,700	\$ 137,170
\$ 128,750	\$ 144,200
\$ 126,950	\$ 144,723
\$ 125,950	\$ 143,583

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4. Using interpolation and the information on the graph below, what is the appropriate schedule value for an improvement with 2,351 to 2,400 square feet?

- a. \$56.67
- b. \$59.33
- c. \$51.33
- d. \$58.00

70.00	x							
69.00								
68.00								
67.00		X						
66.00								
65.00								
64.00			x					
63.00								
62.00				x				
61.00								
60.00								
59.00								
58.00								
57.00								
56.00								
55.00								
54.00							x	
53.00								
52.00								x
	2101 to 2150	2151 to 2200	2201 to 2250	2251 to 2300	2301 to 2350	2351 to 2400	2401 to 2450	2451 to 2500

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5. Which of the following best describes the benchmark property derived from these six properties? (Use the chart on the next page)
- a. Single-family residence, concrete slab, wood-frame construction, wood siding, no masonry veneer. Hip roof with good to excellent composition shingles. L or R shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes.
 - b. Single-family residence, concrete slab, wood-frame construction, wood siding with a maximum of 30 percent masonry-veneer. Hip or gable roof with good to excellent composition shingles. L or R shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes
 - c. Single-family residence reinforced concrete slab, wood-frame construction, wood siding with a maximum of 30 percent masonry-veneer. Hip roof with excellent composition shingles. Any shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes.
 - d. Single-family residence, concrete slab, wood-frame construction with wood siding. Gable roof with good composition shingles. Any shape, with 1,200 to 2,000 square feet. One and one-half baths, CACH, electrical service from 160 to 280 amperes.

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PID	01	02
Use	Single-Family	Single-Family
Size	1,850	1,450
Shape	L	R*
Exterior Walls	Wood, 30 percent Brick	Wood, 15 percent Stone
Foundation	Reinforced Slab	Concrete Slab
Roof Shape	Hip	Gable
Roof Surface	Excel., Composition	Good, Composition
Elec. Service	240 AMPS	200 AMPS
Heating	CACH	Heat Pump
Cooling	CACH	Heat Pump
Baths	2 and 1/2	2
Amenities	Rear Deck, Pool	Detached Storage Shed
PID	03	04
Use	Single-Family	Single-Family
Size	1,250	1,400
Shape	R*	L
Exterior Walls	Wood	Wood
Foundation	Concrete Slab	Reinforced Slab
Roof Shape	Gable	Hip
Roof Surface	Good, Composition	Good, Composition
Elec. Service	160	240
Heating	Gas Jets	CACH
Cooling	Window Units	CACH
Baths	2	2
Amenities	Detached Storage Shed	None
PID	05	06
Use	Single-Family	Single-Family
Size	1,975	1,730
Shape	L	L
Exterior Walls	Wood, 30 percent Brick	Wood, 20 percent Stone
Foundation	Reinforced Slab	Reinforced Slab
Roof Shape	Hip	Gable
Roof Surface	Good, Composition	Excel., Composition
Elec. Service	280	240
Heating	CACH	Heat Pump
Cooling	CACH	Heat Pump
Baths	3	2
Amenities	Rear Deck, Hot Tub	Rear Deck

*R = Rectangular

NOTES:

**Section Twelve:
Texas Property Tax Law**

Class IV Only -15 Questions

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A. Important Terminology

Term	Definition
Closed Meeting	Must have a quorum and a certified agenda must be kept. No member of a government body shall participate in a closed meeting knowing that a certified agenda is not being kept and the session does not have a quorum.
Confidentiality	Can only be promised if law protects confidentiality. Includes home address information of certain public officials and victims of specific crimes.
Meeting	Any deliberation between a quorum (one more than half) of members of a governmental body.
Open Records	All persons are entitled to full information unless access is denied by law.
Open Records Request	The custodian of records may require the person requesting public information to provide a detailed description of records requested. Cannot require person to identify themselves.
Public Meeting	Requires a notice of meeting with the time, place and agenda posted at least 72 hours (continuous) prior to the meeting.
Recording	Any public meeting must be recorded by means of typewritten notes or the agency's tape recorder.

NOTES:

B. Texas Constitution – Article VIII

1. *Taxation shall be equal and uniform.*
2. All property in this State, whether owned by natural persons or corporations, other than municipal, shall be taxed in proportion to its value, which shall be ascertained as may be provided by law.

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C. Property Tax Code

The following sections of the Tax Code included in the Property Tax Law course are relevant to the state exam.

SEC. 1.111. Representation of Property Owner

(e) *An agreement between a property owner or the property owner's agent and the chief appraiser is final if the agreement relates to a matter:*

(1) *Which may be protested to the appraisal review board or on which a protest has been filed but not determined by the board; or*

(2) *Which may be corrected under SEC. 25.25 or on which a motion for correction under that section has been filed but not determined by the board.*

SEC. 6.05. Appraisal Office

(i) *To ensure adherence with generally accepted appraisal practices, the board of directors of an appraisal district shall develop biennially a written plan for the periodic reappraisal of all property within the boundaries of the district according to the requirements of SEC. 25.18 and shall hold a public hearing to consider the proposed plan. Not later than the 10th day before the date of the hearing, the secretary of the board shall deliver to the presiding officer of the governing body of each taxing unit participating in the district a written notice of the date, time, and place for the hearing. Not later than September 15 of each even-numbered year, the board shall complete its hearings, make any amendments, and by resolution finally approve the plan. Copies of the approved plan shall be distributed to the presiding officer of the governing body of each taxing unit participating in the district and to the comptroller within 60 days of the approval date.*

SEC. 6.41. Appointment of ARB Members

(d) *Effective until June 30, 2024: Members of the board are appointed by the local administrative district judge under Subchapter D, Chapter 74, Government Code, in the county in which the appraisal district is established. A vacancy on the board is filled in the same manner for the unexpired portion of the term.*

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(d) *Effective as of July 1, 2024: Members of the board are appointed by the applicable appointing authority. For an appraisal district to which Section 6.03 applies, the appointing authority is the local administrative district judge under Subchapter D, Chapter 74, Government Code, in the county in which the appraisal district is established. For an appraisal district to which Section 6.0301 applies, the appointing authority is the board of directors of the district. A vacancy on the board is filled in the same manner for the unexpired portion of the term.*

SEC. 6.42. ARB Organization, Meetings and Compensation

(a) **Effective until June 30, 2024:** *A majority of the appraisal review board constitutes a quorum. The local administrative district judge under Subchapter D, Chapter 74, Government Code, in the county in which the appraisal district is established shall select a chairman and a secretary from among the members of the appraisal review board. The judge is encouraged to select as chairman a member of the appraisal review board, if any, who has a background in law and property appraisal.*

(a) **Effective as of July 1, 2024:** *A majority of the appraisal review board constitutes a quorum. The applicable appointing authority prescribed by Section 6.41(d) in the county in which the appraisal district is established shall select a chairman and a secretary from among the members of the appraisal review board. The applicable appointing authority is encouraged to select as chairman a member of the appraisal review board, if any, who has a background in law and property appraisal.*

(d) *The concurrence of a majority of the members of the appraisal review board present at a meeting of the board is sufficient for a recommendation, determination, decision, or other action by the board. The concurrence of a majority of the members of a panel of the board present at a meeting of the panel is sufficient for a recommendation by the panel. The concurrence of more than a majority of the members of the board or panel may not be required.*

SEC. 11.01. Real and Tangible Personal Property

(a) All real and tangible personal property that this state has jurisdiction to tax is taxable unless exempt by law.

NOTES:

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- (b) This state has jurisdiction to tax real property if located in this state.
- (c) This state has jurisdiction to tax tangible personal property if the property is:
 - (1) located in this state for longer than a temporary period;
 - (2) temporarily located outside this state and the owner resides in this state; or
 - (3) used continually, whether regularly or irregularly, in this state
- (d) Tangible personal property that is operated or located exclusively outside this state during the year preceding the tax year and on January 1 of the tax year is not taxable in this state

SEC. 22.28. Penalty for Delinquent Report

- (a) The chief appraiser shall impose a *penalty on a person who fails to timely file a rendition statement or property report in an amount equal to 10 percent* of the total amount of taxes imposed on the property for that year by taxing units participating in the appraisal district.

Sec. 22.29. Penalty for Fraud or Intent to Evade Tax

- (a) *The chief appraiser shall impose an additional penalty on the person equal to 50 percent of the total amount of taxes imposed on the property for the tax year of the statement or report by the taxing units participating in the appraisal district if it is finally determined by a court that:*
 - (1) the person filed a false statement or report with the intent to commit fraud or to evade the tax; or
 - (2) the person alters, destroys, or conceals any record, document, or thing, or presents to the chief appraiser any altered or fraudulent record, document, or thing, or otherwise engages in fraudulent conduct, for the purpose of affecting the course or outcome of an inspection, investigation, determination, or other proceeding before the appraisal district.

SEC. 23.01. Appraisals Generally

- (a) Except as otherwise provided all taxable property is appraised at its market value as of January 1.

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- (b) The market value of property shall be determined by the application of generally accepted appraisal methods and techniques. If the appraisal district determines the appraised value of a property using mass appraisal standards, *the mass appraisal standards must comply with the Uniform Standards of Professional Appraisal Practice.*
- (d) *The market value of a residence homestead shall be determined solely on the basis of the property's value as a residence homestead, regardless of whether the residential use of the property by the owner is considered to be the highest and best use of the property.*
- (e) Notwithstanding any provision of this subchapter to the contrary, if the appraised value of a property in a tax year is lowered under Subtitle F, the appraised value of the property as finally determined under that subtitle is considered to be the appraised value of the property for that tax year. *In the [following] next tax year in which the property is appraised, the chief appraiser may not increase the appraised value of the property unless the increase by the chief appraiser is reasonably supported by clear and convincing evidence when all of the reliable and probative evidence in the record is considered as a whole.*

SEC. 23.23. Limitation on Appraised Value of Residence Homestead.

- (a) Notwithstanding the requirements of Sec. 25.18 and regardless of whether the appraisal office has appraised the property and determined the market value of the property for the tax year, an appraisal office may increase the appraised value of a residence homestead for a tax year to an amount not to exceed the lesser of:
- (1) the market value of the property for the most recent tax year that the market value was determined by the appraisal office; or
 - (2) the sum of:
 - (A) *10 percent of the appraised value of the property for the preceding tax year;*
 - (B) *the appraised value of the property for the preceding tax year; and*
 - (C) *the market value of all new improvements to the property.*

NOTES:

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(b) When appraising a residence homestead, the chief appraiser shall:

- (1) appraise the property at its market value; and
- (2) include in the appraisal records both the market value of the property and the amount computed under Subsection (a)(2).

(c) *The limitation provided by Subsection (a) takes effect as to a residence homestead on January 1 of the tax year following the first tax year the owner qualifies the property for an exemption under Sec. 11.13. The limitation expires on January 1 of the first tax year that neither the owner of the property when the limitation took effect nor the owner's spouse or surviving spouse qualifies for an exemption under Sec. 11.13.*

SEC 23.231. Circuit Breaker Limitation on Appraised Value of Real Property Other Than Residence Homestead. (Effective January 1, 2024, expires December 31, 2026)

- (a) This section applies only to real property with an appraised value of not more than the amount determined under Subsection (j) for the tax year in which the property first qualifies for the circuit breaker limitation authorized by this section. (January 1, 2024, value \$5 million) Value limit to be adjusted annually and published by the Comptroller's office using the CPI.
- (d) Notwithstanding the requirements of Section 25.18 and regardless of whether the appraisal office has appraised the property and determined the market value of the property for the tax year, an appraisal office may increase the appraised value of real property to which this section applies for a tax year to an amount not to exceed the lesser of:
- (1) the market value of the property for the most recent tax year that the market value was determined by the appraisal office; or
 - (2) the sum of:
 - (A) 20 percent of the appraised value of the property for the preceding tax year;
 - (B) the appraised value of the property for the preceding tax year; and
 - (C) the market value of all new improvements to the property.

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SEC. 23.55. Change of Use of Land (productivity)

- (a) If the use of land that has been appraised as provided by this subchapter changes, an additional tax is imposed on the land equal to the *difference between the taxes imposed on the land for each of the three years preceding the year in which the change of use occurs that the land was appraised as provided by this subchapter and the tax that would have been imposed had the land been taxed on the basis of market value in each of those years, plus interest at an annual rate of five percent calculated from the dates on which the differences would have become due.*

SEC. 25.18. Periodic Reappraisals

- (a) Each appraisal office shall implement the plan for periodic reappraisal of property approved by the board of directors under Section 6.05(i).
- (b) *The plan shall provide for the following reappraisal activities for all real and personal property in the district at least once every three years:*
- (1) identifying properties to be appraised through physical inspection or by other reliable means of identification, including deeds or other legal documentation, aerial photographs, land-based photographs, surveys, maps, and property sketches;
 - (2) identifying and updating relevant characteristics of each property in the appraisal records;
 - (3) defining market areas in the district;
 - (4) identifying property characteristics that affect property value in each market area, including:
 - (A) the location and market area of property;
 - (B) physical attributes of property, such as size, age, and condition;
 - (C) legal and economic attributes; and
 - (D) easements, covenants, leases, reservations, contracts, declarations, special assessments, ordinances, or legal restrictions;
 - (5) developing an appraisal model that reflects the relationship among the property characteristics affecting

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value in each market area and determines the contribution of individual property characteristics;

- (6) applying the conclusions reflected in the model to the characteristics of the properties being appraised; and
- (7) reviewing the appraisal results to determine value.

SEC. 25.19. Notice of Appraised Value

(a) By April 1 or as soon thereafter as practicable if the property is a single-family residence that qualifies for an exemption under SEC. 11.13 (homestead), or by May 1 or as soon thereafter as practicable in connection with any other property, the chief appraiser shall deliver a clear and understandable written notice to a property owner of the appraised value of the property owner's property if:

- (1) the appraised value of the property is greater than it was in the preceding year;
 - (2) the appraised value of the property is greater than the value rendered by the property owner;
 - (3) the property was not on the appraisal roll in the preceding year; or
 - (4) an exemption or partial exemption approved for the property for the preceding year was canceled or reduced for the current year.
- (5) in italic typeface, the following statement:

“The Texas Legislature does not set the amount of your local taxes. Your property tax burden is decided by your locally elected officials, and all inquiries concerning your taxes should be directed to those officials;”

SEC. 25.25. Correction of Appraisal Roll

(b) The chief appraiser may change the appraisal roll at any time: to correct a name or address, a determination of ownership, a description of property, multiple appraisals of a property, or a clerical error or other inaccuracy as prescribed by board rule that does not increase the amount of tax liability. By the 10th day after the end of each calendar quarter the chief appraiser shall submit to the appraisal

NOTES:

Property Tax Education Coalition, Inc.

review board and to the board of directors a written report of each change that decreases the tax liability of the owner of the property.

(c) *The appraisal review board, on motion of the chief appraiser or of a property owner, may direct by written order changes in the appraisal roll for any of the five proceeding years to correct:*

- (1) *Clerical errors that affect a property owner's liability for a tax imposed in that year;*
- (2) *Multiple appraisals of a property in that year;*
- (3) *The inclusion of property that does not exist in the form or location described in the appraisal roll; or*
- (4) *An error in which property is shown as owned by a person who did not own the property on January 1 of that tax year.*

(d) *At any time prior to the date the taxes become delinquent, a property owner or the chief appraiser may file a motion with the appraisal review board to change the appraisal roll to correct an error that resulted in an incorrect appraised value for the owner's property. However, the error may not be corrected unless it resulted in an appraised value that exceeds by more than*

- (1) *one-fourth the correct appraised value, in the case of property that qualifies as the owner's residence homestead under Sec. 11.13; or*
- (2) *one-third the correct appraised value, in the case of property that does not qualify as the owner's residence homestead under Sec. 11.13.*

SEC. 26.01. Submission of Rolls to Taxing Entities

(A) By July 25, the chief appraiser shall prepare and certify to the assessor for each Taxing unit participating in the district that part of the appraisal rolls for the district that lists the property taxable by the unit. The part certified to the assessor is the appraisal roll for the unit. The chief appraiser shall consult with the assessor for each taxing unit and notify each unit in writing by April 1 of the form in which the roll will be provided to each unit.

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(a-1) If by July 20 the appraisal review board for an appraisal district has not approved the appraisal records for the district as required under Sec. 41.12, the chief appraiser shall not later than July 25 prepare and certify to the assessor for each taxing unit participating in the district an estimate of the taxable value of property in that taxing unit.

SEC. 26.04. Submission of Roll to Governing Body; No-New Revenue and Voter-Approval Tax Rates

(1) “No- New- Revenue [Effective] tax rate” means a rate expressed in dollars per \$100 of taxable value calculated according to the following formula: No New Revenue TAX RATE = (LAST YEAR'S LEVY - LOST PROPERTY LEVY) (CURRENT TOTAL VALUE - NEW PROPERTY VALUE)

(2) “Voter- Approval tax rate” (rollback rate) means a rate expressed in dollars per \$100 of taxable value calculated according to the following applicable formula:

(A) for a special taxing unit: Voter -Approval TAX RATE = (NO NEW REVENUE MAINTENANCE AND OPERATIONS RATE x 1.08) + CURRENT DEBT RATE

(B) for a taxing unit other than a special taxing unit: VOTER-APPROVAL TAX RATE = (NO-NEW-REVENUE MAINTENANCE AND OPERATIONS RATE x 1.035) + (CURRENT DEBT RATE + UNUSED INCREMENT RATE)

NOTES:

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SEC. 41.03. Challenge By Taxing Unit

- (A) A taxing unit is entitled to challenge before the appraisal review board:
- (1) an exclusion of property from the appraisal records;
 - (2) a grant in whole or in part of a partial exemption, other than an exemption under Section 11.35;
 - (3) a determination that land qualifies for appraisal as provided by Subchapter C, D, E, or H, Chapter 23; or
 - (4) a failure to identify the taxing unit as one in which a particular property is taxable.

SEC. 41.41. Right to Protest

- (a) A property owner is entitled to protest before the appraisal review board the following actions:
- (1) Determination of the appraised value or market value of the owner's property;
 - (2) Unequal appraisal of the owner's property;
 - (3) Inclusion of the owner's property on the appraisal records;
 - (4) Denial to the property owner of a partial exemption;
 - (5) Determination that the owner's land does not qualify for special appraisal;
 - (6) Identification of the taxing units in which the owner's property is taxable;
 - (7) Determination of property ownership;
 - (8) Determination of a change of use of land appraised for special valuation.
 - (9) Any other action of the chief appraiser, appraisal district, or ARB that adversely affects the property owner.

NOTES:

Property Tax Education Coalition, Inc.

SEC. 41.411. Protest of Failure to Give Notice

- (a) A property owner is entitled to protest before the appraisal review board the failure of the chief appraiser or the appraisal review board to provide or deliver any notice to which the property owner is entitled.

SEC. 41.4115. Forfeiture of Remedy for Non-Payment of Taxes

- (b) Except as provided by Subsection (d), a property owner who files a protest under Section 41.411 must pay the amount of taxes due on the portion of the taxable value of the property subject to the protest that is not in dispute before the delinquency date, or the property owner forfeits the right to proceed with the final determination of the protest.

SEC. 41.43. Protest on the Ground of Inequality of Appraisal

- (b) A protest on the ground of unequal appraisal of property shall be determined in favor of the protesting party unless the appraisal district establishes that:
- (1) The appraisal ratio of the property is equal to or less than the median level of appraisal of a reasonable and representative sample of other properties in the appraisal district;
 - (2) The appraisal ratio of the property is equal to or less than the median level of appraisal of a sample of properties in the appraisal district consisting of a reasonable number of other properties similarly situated to, or of the same general kind or character as, the property subject to the protest; or
 - (3) The appraised value of the property is equal to or less than the median appraised value of a reasonable number of comparable properties appropriately adjusted.

NOTES:

Property Tax Education Coalition, Inc.

SEC. 41.A01. Right of Appeal by Property Owner

As an alternative to filing an appeal under Section 42.01, a property owner is entitled to appeal through binding arbitration under this chapter an appraisal review board order determining a protest filed under Section 41.41(a)(1) or 2 concerning the appraised or market value of property if:

- (1) the property qualifies as the owner's residence homestead under Section 11.13; or*
- (2) the appraised or market value, as applicable, of the property as determined by order is \$5 million or less.*

SEC. 41.47. Determination of Protest

- (c-2) The board may not determine the appraised value of the property that is the subject of a protest to be an amount greater than the appraised value of the property as shown in the appraisal records submitted to the board by the chief appraiser under Section 25.22 or 25.23, except as requested and agreed to by the property owner. This subsection does not apply if the action being protested is the cancellation, modification, or denial of an exemption or the determination that the property does not qualify for appraisal as provided by Subchapter C, D, E, or H, Chapter 23.*
- (g) The chief appraiser and the property owner or the designated agent of the owner may file a joint motion with the appraisal review board notifying the board that the chief appraiser and the property owner or the designated agent of the owner have agreed to a disposition of the protest and requesting the board to issue an agreed order. The joint motion must contain the terms of the disposition of the protest. The board shall issue the agreed order not later than the fifth day after the date on which the joint motion is filed with the board. The chief appraiser and the property owner or the designated agent of the owner may provide in the joint motion that the agreed order is appealable in the same manner as any other order issued by the board under this section.*

NOTES:

Property Tax Education Coalition, Inc.

NOTES:

SEC. 42.01. Right of Appeal by Property Owner

- (a) A property owner is entitled to appeal:
 - (1) an order of the appraisal review board determining:
 - (A) a protest by the property owner as provided by Subchapter C of Chapter 41;
 - (B) a motion filed under SEC. 25.25;
 - (C) that the property owner has forfeited the right to a final determination of a motion filed under SEC. 25.25 or of a protest under SEC. 41.411 for failing to comply with the prepayment requirements of SEC. 25.26 or 41.4115, as applicable;
 - (D) eligibility for a refund requested under SEC. 23.1243; or
 - (E) that the appraisal review board lacks jurisdiction to finally determine a protest by the property owner under Subchapter C, Chapter 41, or a motion filed by the property owner under SEC. 25.25 because the property owner failed to comply with a requirement of Subchapter C, Chapter 41, or SEC. 25.25, as applicable; or

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Review Questions: Property Tax Law

1. **Texas has jurisdiction to tax property:**
 - a. In a state for more than a temporary period.
 - b. That does not have contact with the state.
 - c. That is in interstate transit.
 - d. That is simply passing through the state.

2. **The market value of an inventory is the price it would sell:**
 - a. In an arms-length transaction.
 - b. In a going out of business sale.
 - c. To a purchaser who would continue the business.
 - d. To individuals if the entire inventory in a single day.

3. **Property owners may appeal their value through binding arbitration if the property is a residence homestead or the appraised market value is:**
 - a. More than \$5 million.
 - b. More than \$10 million.
 - c. \$5 million or less.
 - d. \$10 million.

4. **A business personal property rendition must generally be filed by:**
 - a. April 15.
 - b. May 30.
 - c. June 1.
 - d. June 15.

5. **The Tax Code requires an appraisal district to comply with the Uniform Standards of Professional Appraisal practice when:**
 - a. **Using mass appraisal standards**
 - b. Appraising any type of property on an individual basis
 - c. Appraising industrial property
 - d. Appraising income producing property.

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6. The penalty imposed for failure to timely file a required rendition is what percentage of the taxes imposed on the property?
- Six
 - Ten
 - Fifteen
 - Twenty
7. The primary source of law for appraisal districts is the:
- Uniform Standards of Professional Appraisal Practice.
 - Rules of the Comptroller of Public Accounts.
 - Property Tax Code.
 - Texas Appraisal Code.
8. An appraisal district is classified as a:
- Political subdivision.
 - County department.
 - Department of the Comptroller's Office.
 - Part of the county tax office.
9. A "meeting," in the Open Meetings statute, means any deliberation between:
- a quorum of members of a governmental body.
 - all members of a governmental body.
 - any members of a governmental body and the public.
 - any government officials.
10. Under "Open Records ", all persons are entitled to full information unless:
- the agency declares it confidential.
 - access is denied by law.
 - access could result in legal action.
 - the persons motives are suspect.

Property Tax Education Coalition, Inc.

11. Confidentiality of information should only be promised if confidentiality:

- a. is protected by law.
- b. can be assured.
- c. is reasonably certain.
- d. is permitted by the governing body.

12. According to Tax Code, Sec. 1.11 (e) an agreement between the chief appraiser and the property owner or their agent is binding:

- a. only on the chief appraiser.
- b. only on the property owner or their agent.
- c. on all parties to the agreement.
- d. agreements only if agreed to by the ARB.

13. According to Property Tax Code Sec. 22.07 (b) which of the following is NOT a requirement for the chief appraiser or his representative to have authority to inspect a business property?

- a. When it is convenient.
- b. Must be during normal business hours.
- c. At a time, agreeable to the chief appraiser (or his representative).
- d. At a time, agreeable to the person in control of the premises.

14. Property Tax Code Sec. 6.05 states that the board of directors of an appraisal district shall develop according to the requirements of Property Tax Code Sec. 25.18?

- a. Chief appraiser annual review.
- b. Mass Appraisal Report.
- c. Biennial reappraisal plan not later than September 15th of each even-numbered year.
- d. Annual Report.

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15. Who appoints the Appraisal Review Board in an appraisal district subject to Tax Code Sec. 6.03??

- a. Local administrative judge
- b. By a majority of the appraisal district board of directors
- c. Taxing units
- d. County Commissioners

End of Review Material

Property Tax Education Coalition, Inc.

EXAM TAKING SUGGESTIONS

- Get a good night's rest the night before the exam and eat something. Do NOT OVER-CAFFEINATE.
- Arrive early, go to the bathroom, get familiar with your surroundings, before your test.
- Read the question two times before you ever look at an answer.
- Skip hard questions, mark & return, other questions may help answer.
- Eliminate incorrect answers.
- Pick the most correct / conclusive answer when you are not certain.
- Know the formulas.
- Which of the following "is not" questions...?
- If you have never heard the word, **it is not the answer.**
- You will never be more prepared than after this review...

Review Question Answers

Property Tax Education Coalition, Inc.

Review Questions: Property Tax Law

2. **Texas has jurisdiction to tax property:**
 - e. In a state for more than a temporary period
 - f. That does not have contact with the state.
 - g. That is in interstate transit.
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 - h. June 15
 - i.

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 - g. Appraising industrial property
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Property Tax Education Coalition, Inc.

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18. The primary source of law for appraisal districts is the:

- e. Uniform Standards of Professional Appraisal Practice
- f. Rules of the Comptroller of Public Accounts
- g. Property Tax Code
- h. Texas Appraisal Code

19. An appraisal district is classified as a:

- e. Political subdivision
- f. County department
- g. Department of the Comptroller's Office
- h. Part of the county tax office

20. A "meeting", in the Open Meetings statute, means any deliberation between:

- e. a quorum of members of a governmental body
- f. all members of a governmental body
- g. any members of a governmental body and the public
- h. any government officials

21. Under "Open Records", all persons are entitled to full information unless:

- e. the agency declares it confidential.
- f. access is denied by law.
- g. access could result in legal action.
- h. the persons motives are suspect.

Property Tax Education Coalition, Inc.

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- g. Biennial reappraisal plan not later than September 15th of each even-numbered year
- h. Annual Report

Property Tax Education Coalition, Inc.

26. Who appoints the Appraisal Review Board in a county?

- e. Local administrative judge
- f. By a majority of the Appraisal District board of directors
- g. Taxing units
- h. County Commissioners

End of Review Material

Property Tax Education Coalition, Inc.

EXAM TAKING SUGGESTIONS

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- Eliminate incorrect answers.
- Pick the most correct / conclusive answer when you are not certain.
- Know the formulas.
- Which of the following "is not" questions...?
- If you have never heard the word, **it is not the answer.**
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Review Questions: TDLR Rules-Ethics

1. Violation of the TDLR Code of Ethics is a violation of:
 - a. Federal Law
 - b. State Law**
 - c. Local Jurisdiction
 - d. County Law

2. TDLR Rules state that property taxation should be:
 - a. Fair
 - b. Equal
 - c. Agreeable between parties
 - d. Fair & Equal**

4. Who is NOT required to register with TDLR?
 - a. Chief Appraiser
 - b. Appraisal Supervisor
 - c. Anyone who engages in appraisal for ad valorem taxation.
 - d. CAD Board Member**

7. A registrant in their official capacity must not:
 - a. Support a political candidate.
 - b. Donate to political candidates
 - c. Vote
 - d. Must not endorse services or products in their official capacity.**

8. If a registrant changes agency, how long do they have to notify TDLR?
 - a. 15 days
 - b. 20 days
 - c. 30 days**
 - d. No defined time frame.

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9. A candidate for RPA has how many years to become certified as an RPA?
- a. 3 years
 - b. 2 years
 - c. 5 years**
 - d. 6 years
9. Which state agency licenses and regulates Property Tax Professionals?
- a. Texas Comptroller of Public Accounts
 - b. Texas Education Agency
 - d. Texas Department of Licensing & Regulation**
 - e. Texas Real Estate Commission
10. A registrant can request an extension of time to complete certification requirements for all of the following reasons EXCEPT:
- a. Family Medical Leave Act
 - b. Active military service
 - c. At the request of the Chief Appraiser or TAC
 - d. At the request of the governing body**
9. TDLR Rule §94.71 bars a registrant from providing information to a private party if the information is not reasonably available to all parties. There is an exception to the rule if the information:
- a. is requested in writing.
 - b. is confidential.**
 - c. relates to individual properties.
 - d. relates to specific properties.
10. The Tax Code requires which of the following to be open to the public?
- a. Staff meetings at which calculations of effective tax rates are discussed.
 - b. Discussions between a collector and a chief appraiser
 - c. Protest hearings.**
 - d. Discussions between a governing body and its attorney.

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11. **Offering a gift to a public servant by a person that is subject to their jurisdiction:**

- a. Is acceptable as long as it is valued at less than \$50.
- b. Violates Section 36.07
- c. Is a misdemeanor.**
- d. Is a felony.

12. **According to the Code of Ethics, a registrant must per duties in a way that avoids the appearance of?**

- a. Being unprofessional.
- b. Being too friendly with the public.
- c. Impropriety.**
- d. Personal interest.

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Review Questions: USPAP

1. **Who are the users of USPAP?**
 - a. Government agencies and banks
 - b. Mortgage companies and appraisers.
 - c. Appraisers and users of appraisal services**
 - d. Sellers of properties and real estate agents

2. **What board develops, publishes, interprets and amends USPAP?**
 - a. Appraisal Standards Board**
 - b. Appraisal Qualifications Board
 - c. Appraisal Foundation
 - d. Appraisal Practices Board

3. **Every USPAP compliant appraisal must have a signed certification except:**
 - a. Restricted Use Report
 - b. All USPAP compliant reports must have signed certifications.**
 - c. Business Intangible Reports
 - d. Mass Appraisal Reports

4. **A mathematical expression of how supply and demand factors interact in the market is:**
 - a. Multiple Regression
 - b. Mass Appraisal Model**
 - c. Scope of Work
 - d. Mass Appraisal

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5. **The type and extent of research and analyses in an appraisal or appraisal review assignment describes:**
 - a. **Scope of Work**
 - b. Work File
 - c. Mass Appraisal
 - d. Letter of Transmittal

6. **USPAP is an acronym for:**
 - a. United States Professional Appraisal Practice
 - b. Uniform Standards of Property Appraisal Practice
 - c. **Uniform Standards of Professional Appraisal Practice**
 - d. Understanding Standards of Professional Appraisal Practice

7. **Which of the following professionals should comply with USPAP?**
 - a. Appraisers
 - b. Real estate brokers
 - c. Tax agents.
 - d. **Individuals acting as an appraiser.**

8. **Which USPAP Standard is used for the development of a Mass Appraisal?**
 - a. Standard 6.
 - b. **Standard 5**
 - c. Standard 3
 - d. Standard 1

9. **USPAP Standards 5 & 6 on Mass Appraisals are used for the following?**
 - a. Ad valorem property tax appraisals only.
 - b. Fee appraisals of multiple lots.
 - c. **All mass appraisals.**
 - d. Valuing inventory lots and houses only.

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10. Tax Code Sect. 23.01 states that “The market value of a property shall be determined by the application of generally accepted appraisal methods and techniques” and must comply with?
- TDLR Rules.
 - IAAO Standards.
 - USPAP.**
 - Comptroller PTAD Rules.
11. What appraisal organization represented the mass appraisal industry during the creation of appraisal standards?
- Texas Comptroller of Public Accounts
 - International Association of Assessing Officers (IAAO)**
 - American Society of Mass Appraisers
 - International Society of Mass Appraisers
12. Each written mass appraisal report must contain:
- Signed certification.**
 - All three approaches to value.
 - An addendum.
 - Jurisdictional Exception Rule explanations.
13. Certain laws or regulations may preclude compliance with parts of USPAP. When this happens, only that part of USPAP, which may be in conflict with the law or regulation, becomes void for the assignment. This is known as:
- Hypothetical Condition.
 - Jurisdictional Rule exception.**
 - Extraordinary assumption.
 - Special condition.

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14. What is the stated purpose of USPAP?

- a. Protect the United States government.
- b. Promote and maintain a high level of public trust.**
- c. Provide liability protection for appraisers.
- d. Obey the guidelines from the Appraisal Foundation.

15. When must appraisers comply with USPAP?

- a. When state requires.
- b. When conducting appraisal for federally insured mortgages.
- c. When either the services or the appraiser is required by law, regulation, or agreement with the client or intended user.**
- d. When acting as an advocate for client.

16. A new section was added to what rule in the 2024-2025 USPAP?

- a. Workfile
- b. Competency
- c. Standard 6
- d. Ethics**

17. The new addition in USPAP for 2024-2025 has placed great emphasis on what subject?

- a. Honesty
- b. Redlining
- c. Nondiscrimination**
- d. Education

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Review Questions: Property Tax Administration

1. **An Appraisal District is:**

- a. branch of county government
- b. **an independent political subdivision**
- c. an agency created by local taxing units.
- d. a state agency

2. **The Appraisal Review Board:**

- a. approves local optional exemptions.
- b. is responsible for discovery of all taxable property in the district.
- c. approves the taxing unit tax roll.
- d. **approves ARB orders by majority vote of members present.**

3. **The appraisal district budget must be approved by:**

- a. ARB
- b. chief appraiser
- c. **appraisal district board of directors**
- d. taxing units participating in the district.

4. **The taxing unit tax roll must be approved by the:**

- a. chief appraiser
- b. **taxing unit governing body**
- c. tax assessor.
- d. ARB

5. **Who must approve optional local tax exemptions?**

- a. tax assessor.

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- b. **taxing unit governing body**
 - c. chief appraiser
 - d. ARB
6. **An exemption determines the:**
- a. market value
 - b. assessed value.
 - c. **taxable value**
 - d. residual value
7. **If a taxing unit collects less than its tax levy, then the unit must first meet its:**
- a. last year's budget
 - b. operational costs
 - c. salary obligations
 - d. **debt obligations**
8. **What is the school tax levy for a residence with an appraised value of \$280,000, a homestead, an over 65 exemption. and a tax rate of \$2.50?**
- a. \$425.00
 - b. \$4,500.00
 - c. \$450.00
 - d. **\$4,250.00**
9. **Under normal circumstances, the state comptroller's Property Tax Assistance Division conducts a property value study for a school district:**
- a. Annually
 - b. Biannually
 - c. Semiannual
 - d. **Biennially**
10. **How long after a property owner receives ARB orders may an appeal through binding arbitration be filed?**

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- a. 30
- b. 60**
- c. 90
- d. 120

11. Exemptions are administered by:

- a. Taxing units
- b. Assessor/Collector
- c. CAD Board of Directors
- d. Chief Appraiser**

12. To be publicly recognized a deed must be:

- a. posted at the door of the courthouse.
- b. it is not necessary to be publicly recognized, I own the property.
- c. recorded at the courthouse.**
- d. given to the Appraisal District

13. What date starts the Assessment Phase of the Tax Cycle?

- a. January 1
- b. July 1
- c. May 15
- d. July 25**

14. What date does the ARB approve the appraisal records?

- a. May 15
- b. July 20**
- c. July 25
- d. October 1

15. Which of these properties is not exempt from taxes?

- a. The furniture in a State Representative's office.

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- b. **A copier leased by a church.**
- c. School.
- d. Church.

16. How often does the state Comptroller's Property Tax Assistance Division conduct a property value study?

- a. **annually**
- b. biennially
- c. on request of taxing units
- d. on request of legislature

17. In which phase of the Tax Cycle are exemptions approved?

- a. **Appraisal**
- b. Equalization
- c. Assessment
- d. Collection

18. In which phase of the Tax Cycle are refunds processed?

- a. Appraisal
- b. Equalization
- c. Assessment
- d. **Collection**

19. Which of the following activities occur in the Assessment Phase?

- a. Tax roll certified.
- b. Taxing entity governing body meets only for regular meetings.
- c. **Tax statements are mailed.**
- d. Refunds are processed.

20. What does the appraisal cap do?

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- a. Creates a tax ceiling on school taxes.
- b. Limits the amount by which appraisals can increase from year to year on homesteads.**
- c. Limits appraisal increases to 20%.
- d. Allows new improvements to escape taxation.

21. What does the tax ceiling do?

- a. Provides taxes will never be higher than the amount of the ceiling for 65 or older and disabled person's homestead only.**
- b. Provides tax relief for all homestead properties.
- c. Puts roofs on homes for senior citizens.
- d. Limits the amount of appraisal increases.

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Review Questions – Course 102

1. Which of the following is most likely to be a market-value transaction?
 - a. Samantha buys a house on a contract for deed.
 - b. Mrs. Williams sells a house to a long-time employee upon her retirement..
 - c. A large chain of convenience stores purchases the last available commercial corner in the neighborhood.
 - d. **Jane buys a property shortly after the block next door is re-zoned for commercial use.**

2. In a declining neighborhood, a new townhome development replaces a block of owner-occupied houses. Which of the following is the most probable result?
 - a. Land values will decline.
 - b. Rents will decline.
 - c. Investors will become reluctant to purchase property in the area.
 - d. **Land values will increase.**

3. Mark purchased a house and lot for \$150,000. He paid \$15,000 to renovate the kitchen, and another \$12,000 for paint and small repairs. After repairs, the house sold for \$200,000. What economic principle explains the difference between the cost of repairs and the increase in the sale price?
 - a. **Contribution.**
 - b. Conformity.
 - c. Supply and demand.
 - d. Balance.

4. Which of the following best explains the bundle of rights?
 - a. No property owner can give up one right in property without giving up others.
 - b. **Total ownership of property consists of owning a number of distinct and separable rights.**
 - c. Property owner's rights cannot be restricted.
 - d. Individuals always share property ownership with government.

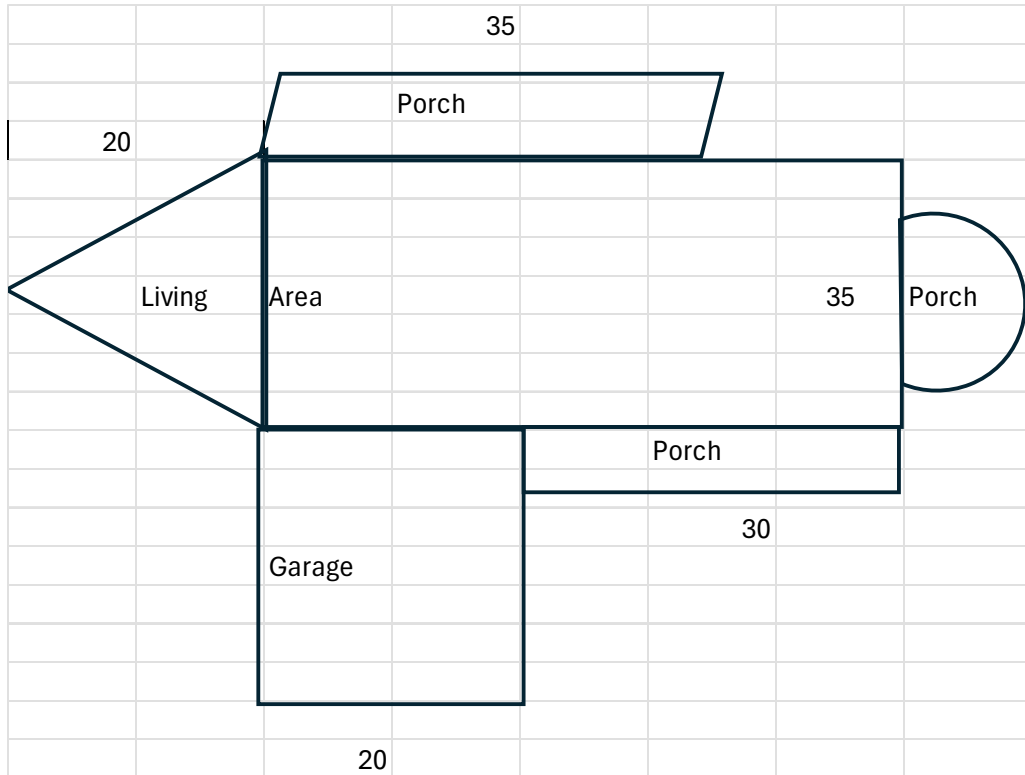
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5. The general term for a restriction on the buyer's rights that is built into a deed is:
- a. Easement.
 - b. Covenant.
 - c. Escheat.
 - d. **Encumbrance.**
6. What should a property owner file to report the condition and value of their home to the appraisal district?
- a. An application for a homestead exemption.
 - b. A copy of the blueprint and abstract.
 - c. **A rendition.**
 - d. A request to appear before the ARB.
7. Depreciation refers to an improvement's loss in value:
- a. because of changes in the surrounding area.
 - b. because of physical defects.
 - c. **from all causes.**
 - d. because it is out of style.
8. The income approach would produce the most accurate appraisal of which of the following properties?
- a. A single-family residence in a new subdivision.
 - b. A lot in an area recently re-zoned to allow commercial development.
 - c. A house built in the late nineteenth century and recently declared a historic landmark.
 - d. **A small strip center near a residential neighborhood.**

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9. The market approach would produce the most accurate appraisal of which of the following?
- a. A private tennis club.
 - b. A small plant where paving bricks are manufactured.
 - c. A vacant lot in a downtown area..**
 - d. A mid-sized ranch in a rural county.
10. The cost approach would produce the most accurate appraisal of which of the following?
- a. A single-family residence in a built-out subdivision with an active market.
 - b. A duplex in a mixed-use neighborhood.
 - c. A company that manufactures trash bags.**
 - d. A commercial vacant lot on a major highway in the city limits.
11. Which type of data is characteristic of the subject site and improvements?
- a. General.
 - b. Comparative.
 - c. Specific.**
 - d. Regional.
12. What is the purpose of an appraisal?
- a. Mortgage loan.
 - b. Protest taxes.
 - c. Produce a logical and believable conclusion concerning the value of an item.**
 - d. Estimate a value for property taxes.
13. Using the information and measurements provided below, calculate the square footage of the improvement of this property.

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Front porch – 7' deep

Rear Porch – 10' deep

Semi-Circle Porch – 20' Diameter

Calculations:

Living Area	$35 \times 50 =$	1,750
	$+ 35 \times 20 \times .5$	<u>350</u>
		2,100
Garage – 20 x 30		600
Porches		
Front – 30 X 7		210
Rear – 10 x 35		350
Semi-Circle		
$3.1416 \times 10 \times 10 \times .5$		157.08
Total		3,417.08

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Review Questions: Cost Approach to Value

1. Name an example of each type of depreciation and how to measure in the box below.

<u>TYPE</u>	<u>EXAMPLE</u>	<u>MEASURE</u>
Physical Curable (Short-Lived)	Broken Window	Cost to Cure
Physical Incurable (Short-Lived)	5 yr old carpet 10 yr life	Age / life
Physical Incurable (Long-Lived)	Bldg. Bone Structure	Age / life
Functional Curable	1920 kitchen	Replacement cost
Functional Incurable	Floor plan	Rent loss / sale
External (Incurable)	Traffic noise	Rent loss / sale

2. Using the 4-3-2-1 Rule, what percentage of a property's value is in the first ½ of depth of the tract of land?

$$40\% + 30\% = 70\%$$

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3. What is the estimated value of the subject lot described in the chart below?

	SUBJECT	SALE 1	SALE 2	SALE 3	SALE 4
Sale Price		\$50,000	\$55,000	\$53,000	\$50,000
Date of Sale		Current	Current	Current	Current
Size (Sq. Ft.)	15,000	15,000	18,000	15,000	18,000
Location	Corner	Inside	Inside	Corner	Inside
Topography	Sloping	Level	Level	Level	Sloping
# of Adjustments				1	
Net Adjustments				-\$5,000	
Indicated Value				\$48,000	

- a. **\$48,000**
- b. \$58,000
- c. \$51,000
- d. \$46,000

ADJUSTMENTS CALCULATED AS FOLLOWS:

Topography Sale #2 vs #4 (\$55,000 - \$50,000 = \$5,000)

4. An appraiser is estimating the value of a vacant lot in a built-up neighborhood. A comparable lot with a three-bedroom, two-bath house on it recently sold for \$178,000. The estimated RCN for the house is \$167,000. The improvement's depreciation is \$33,500. What is the indicated value of the subject lot?

- a. \$11,000 RCN \$167,000 Sale \$178,000
- b. \$33,500 Depre -\$ 33,500 RCNLD -\$133,500
- c. **\$44,500** RCNLD \$133,500 Land \$ 44,500
- d. \$133,500

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5. The typical land to improvement ratio in neighborhood A is 1:4. An improved property is appraised at \$150,000. What is the land value?
- a. \$33,000 1:5 = 20%
 - b. \$25,000 \$150,000 X 20% = \$30,000
 - c. \$30,000**
 - d. \$75,000
6. An appraiser's assignment is to appraise a rent house in an area zoned single-family residential. The GRM method indicates the total property is worth \$90,000. The next block over is zoned commercial. A rent house on that block recently sold for \$125,000. The purchaser spent \$5,000 to clear the site and is constructing a \$100,000 office building. Another rent house on the commercial block sold for \$140,000. The purchaser spent \$20,000 to convert the house to office space, then sold the converted property for \$200,000. The appraiser has been asked to appraise the building using the hypothetical condition that the zoning on the subject block has also changed. What is the highest and best use of the subject property?
- a. Continuation in residential use.
 - b. Conversion of the existing improvement to office space.**
 - c. Clearing the lot to allow new construction.
 - d. Property is zoned single family residential.

As is - \$90,000.

Conversion - \$200,000-\$20,000 = \$180,000

Clearing the lot for sale- \$125,000-\$5,000= \$120,000

7. Values in the local market are declining at a rate of 1% per month. The CAD has a sale for \$150,000 that took place 6 months after the date of appraisal. What is the sale price adjusted for time?
- a. \$141,000
 - b. \$137,615
 - c. \$159,000**
 - d. \$136,500

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8. Cost Schedules typically reflect:

- a. Reproduction Cost New
- b. Replacement Cost New**
- c. Sales Price Per Square Foot
- d. Depreciated Cost New

9. The subject is a triplex in an area where the (monthly) gross rent multiplier is 114. Each rents for \$850 per month. What is the estimated property value?

- a. \$290,700**
- b. \$96,900
- c. \$193,800
- d. \$387,600

$$\$850 \times 3 \times 114 = \$290,700$$

10. A house has recently been appraised that is typical of its neighborhood. The land value is \$35,000. The improvement value is \$140,000. What is the land to property ratio?

- a. 4:1 Total property value = \$175,000
- b. 5:1 $\$175,000/\$35,000 = 5$
- c. **1:5** Land 1, Building 4, Property 5
- d. 1:4

11. The estimated replacement cost new of the subject improvement is \$120,000. It needs a new bath plumbing fixtures, which will cost \$15,000. Comparable improvements in similar condition to the subject recently sold for \$95,000 (building only). What is the subject's depreciation?

- a. **\$25,000** RCN \$120,000
- b. \$15,000 Comp RCNLD -\$95,000
- c. \$20,000 Depreciation \$25,000
- d. \$40,000

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12. An area has recently been re-zoned to allow commercial development. The house's replacement cost less depreciation is \$75,000. In residential use the land would be worth \$25,000. Vacant lots of the same size and topography in the commercial area have recently sold for \$130,000. It would cost \$5,000 to remove the existing improvement. Converting the existing improvement to office space would cost \$35,000. The converted property would sell for \$120,000. What is the appraised value of the subject property?

- a. \$100,000 Continuation \$25,000 Land + \$75,000 Imps= \$100,000
- b. \$130,000
- c. \$120,000 **Vacant \$130,000 Land - \$5,000 = \$125,000**
- d. **\$125,000** Converted \$120,000 - \$35,000 = \$85,000

13. An appraiser is estimating the market value of a site, a residential lot 75' by 100'. No vacant land sales are available for this neighborhood. Two comparable properties have recently sold, each of which has fairly new improvements.

Sale #1 just sold for \$175,000; the RCN of the improvements is \$138,158 and the structure is 95% good.

Sale #2 just sold for \$182,000 and the structure is 100% good, with an RCN of \$142,000.

- a. What is the contributory value of the improvements to Sale #1? (Hint: RCN x % Good) **\$138,158 x .95 = \$131,250**
- b. What is the market value of the site for Comparable #1, as indicated by abstraction? **\$175,000 - \$131,250 = \$43,750**
- c. What is the market value of the site for Comparable #2, as indicated by abstraction? **\$182,000 - \$142,000 = \$40,000**
- d. What is the probable range in which the market value of the subject site will fall? **\$40,000-\$43,750**

Two recently sold sales in the neighborhood were confirmed, with older improvements. The value of the site typically contributes 25% of sales price.

Comparable #3 sold for \$180,000. Comparable #4 recently sold for \$176,500.

- c. What is the market value of the site in Comparable #3? **\$180,000 x .25 = \$45,000**
- d. What is the market value of the site in Comparable #4? **\$176,500 x .25 = \$44,125**

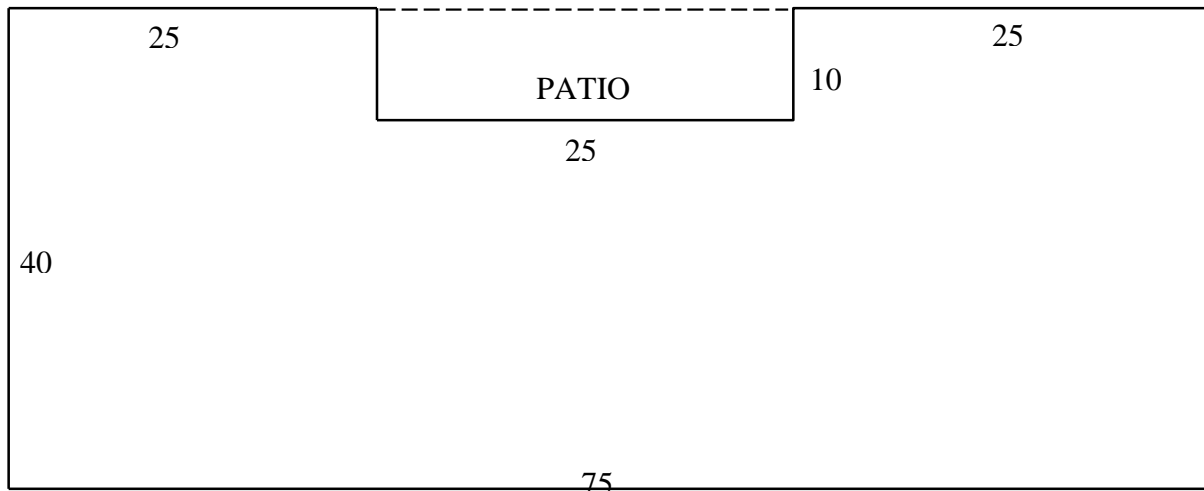
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14. Below is a schedule of unit cost for various construction components. Use it to estimate RCN for property A.

COMPONENT	GOOD	AVERAGE	POOR
Foundation/Sq. Ft.	\$15.09	\$12.08	\$10.50
Flooring/Sq. Ft.	\$17.25	\$13.80	\$12.00
Walls/Lin. Ft.	\$150.94	\$120.75	\$105.00
Roof/Sq. Ft.	\$14.38	\$11.50	\$10.00
Windows	\$215.63	\$172.50	\$150.00
Picture Windows	\$359.38	\$287.50	\$250.00
Exterior Doors	\$172.50	\$138.00	\$120.00
Interior Doors	\$93.44	\$74.75	\$65.00
Sliding Glass Doors	\$395.31	\$316.25	\$275.00
Decorative Doors	\$575.00	\$460.00	\$400.00

Total direct costs from table above; then add 25% for indirect costs.

PROPERTY A



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Problem 14 continued.

Property A has a good quality slab, which includes the patio. The flooring is good quality the walls are of average quality. The roof contains 3,840 square feet and is of good quality. The house has 15 average quality interior doors, three sliding glass door (good), two decorative doors (good), and two exterior doors (good). It has twenty good quality windows and two good quality picture windows.

Work Area Below:

Foundation - 75' x 40'	3,000	\$ 15.09	\$ 45,270.00
Flooring - 3,000 - 250 (Patio)	2,750	\$ 17.25	\$ 47,437.50
Walls (75+75+40+40+10+10)	250	\$ 120.75	\$ 30,187.50
Roof	3,840	\$ 14.38	\$ 55,219.20
Windows	20	\$ 215.63	\$ 4,312.60
Picture Windows	2	\$359.38	\$ 718.75
Exterior Doors	2	\$172.50	\$ 345.00
Interior Doors	15	\$74.75	\$ 1,121.25
Sliding Glass Doors	3	\$395.31	\$ 1,185.94
Decorative Doors	2	\$575.00	\$ 1,150.00
			\$ 186,947.74
		25%	\$ 46,736.93
		Total RCN	\$ 233,684.67

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15. Book construction costs for the following properties were obtained along with the year they were constructed. Using the index for that year and the index for the current year, compute a cost multiplier for each property; then estimate the present Reproduction Cost New for each property:

NOTE: Round the cost indexes to four (4) decimal places.

<u>Book Cost</u>	<u>Year Built</u>	<u>Index for Year Built</u>	<u>Index for This Year</u>
\$85,800	1978	809.4	1183.4
\$85,750	1979	922.1	1183.4
\$86,230	1980	1020.8	1183.4
\$85,930	1981	1091.8	1183.4

Index Multiplier Development	Index Multiplier	Historical Cost	Trended Cost
1183.4/809.4=	1.4621 x	\$85,800 =	\$125,448
1183.4/922.1=	1.2834 x	\$85,750 =	\$110,052
1183.4/1020.8=	1.1593 x	\$86,230 =	\$99,966
1183.4/1091.8=	1.0839 x	\$85,930 =	\$93,140

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16. Examine the following list of properties, replacement costs, actual ages, effective ages and economic lives. Calculate the depreciation (lump sum) of each property using both the physical age/life and the effective (economic) age/life method. The purpose of this exercise is to demonstrate the difference in depreciation between using physical and effective age.

a.	RCN	--	\$48,500	Physical	Economic
	Actual Age	--	5 Years	5/40=.125	2/40=.05
	Effective Age	--	2 Years	\$6,063	\$2,425
	Economic Life	--	40 Years		
b.	RCN	--	\$70,000		
	Actual Age	--	12 Years	12/50=.24	8/50=.16
	Effective Age	--	8 Years	\$16,800	\$11,200
	Economic Life	--	50 Years		
c.	RCN	--	\$32,600		
	Actual Age	--	14 Years	14/40=.35	10/40=.25
	Effective Age	--	10 Years	\$11,410	\$8,150
	Economic Life	--	40 Years		
d.	RCN	--	\$88,000		
	Actual Age	--	25 Years	25/60=.4167	10/60=.1667
	Effective Age	--	10 Years	\$36,670	\$14,670
	Economic Life	--	60 Years		
e.	RCN	--	\$42,500		
	Actual Age	--	30 Years	30/50=.60	15/50=.30
	Effective Age	--	15 Years	\$25,500	\$12,750
	Economic Life	--	50 Years		

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17. Estimate the total amount of physical deterioration suffered by the office building using the breakdown method.

The subject being appraised is a twenty (20) year old office building with an estimated replacement cost new (RCN) of \$510,000.

Painting the exterior, \$15,000 included in RCN; Water heater \$1,200 included in RCN; \$2,000 to repair; painting interior, \$10,000 included in RCN.

Item	RCN	Effective Age	Economic Life
Floor cover	\$ 20,000	10	20
Roof cover	\$40,000	10	25
Heating & A/C	\$12,000	10	15
Plumbing fixtures	\$ 7,500	10	30

The appraiser estimates the effective age of the basic structure to be ten (10) years and the total economic life of the structure to be fifty (50) years.

Problem 17 worksheet on next page.

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PHYSICAL DEPRECIATION BREAKDOWN METHOD

TOTAL BUILDING RCN

\$ 510,000

RCN		DEPRECIATION
	PHYSICAL CURABLE SHORT LIVED (PCSL)	
\$ 15,000	Painting the exterior	\$ 15,000
\$ 1,200	Water Heater	\$ 2,000
\$ 10,000	Painting the interior	\$ 10,000
\$ 26,200	TOTAL PCSL DEPRECIATION	\$ 27,000

	PHYSICAL INCURABLE SHORT LIVED (PISL)				
	Item	Eff Age	Eco Life	% Dep	
\$ 20,000	Floor Cover	10	20	0.50	\$ 10,000
\$ 40,000	Roof Cover	10	25	0.40	\$ 16,000
\$ 12,000	HVAC	10	15	0.67	\$ 8,000
\$ 7,500	Plumbing Fixtures	10	30	0.33	\$ 2,500
\$ 79,500	TOTAL PISL DEPRECIATION				\$ 36,500

	PHYSICAL INCURABLE LONG LIVED (PILL)		
\$ 404,300	REMAINING RCN TO DEPRECIATE		
	Age/Life Method		
	<u>10-year effective age</u>	0.2	
	50-year economic life		
	\$404,300 X 20% Depreciation		
	TOTAL PILL DEPRECIATION		\$ 80,860
	TOTAL PHYSICAL DEPRECIATION		\$ 144,360

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Review Questions: Sales Comparison Approach

1. Which valuation technique requires an active market?
 - a. Cost multiplier approach
 - b. Capitalization approach
 - c. **Comparable sales approach**
 - d. Replacement cost approach

2. In estimating the value of a property, the market approach uses which of the following as a direct indicator of value?
 - a. **Actual sale price information**
 - b. Projected sale price information
 - c. Land and improvement cost information.
 - d. Actual list price information

3. What do appraisers call a property's most profitable use over a given period of time?
 - a. Substitution value
 - b. Productivity index use
 - c. Commercial feasibility use
 - d. **Highest and best use**

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4. What is the estimated value of the subject property described in the chart below?

	SUBJECT	SALE 1	SALE 2	SALE 3	SALE 4
Sale Price		\$101,900	\$90,100	\$112,300	\$96,800
Date of Sale		Current	Current	Current	Current
Lot Size (Sq. Ft.)	10,000	10,000	12,500	12,500	10,000
Living Area (Sq. Ft.)	1,800	2,200	1,800	2,200	2,200
Bathrooms	3	3	2	2	2
# of Adjustments		1	2	3	2
Net Adjustments		- \$22,200			
Indicated Value		\$79,700			

- a. \$84,800
 - b. 101,900
 - c. **79,700**
 - d. 95,200
- Living Area Sale 3 – 2200 sq ft \$112,300**
Sale 2 – 1800 sq ft \$ 90,100
400 sq ft \$22,200

5. Two homes on the same block are for sale. Each has three bedrooms, two baths, a two-car garage, similar amenities, and each is in good condition. The first house is listed for \$60,000 and the second for \$68,000. Which principle dictates that buyers will prefer the first house to the second?

- a. Supply and demand.
- b. **Substitution**
- c. Competition
- d. Conformity

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6. Properties in an appraisal district are appreciating at two percent per month. If a property sold six months ago for \$60,000 what is its current value?
- a. \$63,600 6 months X .02 = .12
 - b. \$61,200 \$60,000 x 1.12 = \$67,200
 - c. \$67,200
 - d. \$52,800
7. A property sold one year ago for \$64,000. It recently sold for \$79,360. What is the monthly rate of appreciation?
- a. 24% \$79,360-\$64,000 = \$15,360
 - b. 19% \$15,360/\$64,000 = 0.24
 - c. 1.60% 0.24/12 = .02 or 2%
 - d. 2%
8. An improved property recently sold for \$100,000. The land component of the property is worth \$25,000. What is the land-to-property ratio?
- a. 1:3
 - b. 1:4
 - c. 4:1
 - d. 3:1

Land=\$25,000 1
Prop=\$100,000 4

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9. An improved property recently sold for \$120,000. The land-to-improvement ratio is 1:3. What is the land value and the improvement value?

- a. Land = \$30,000 Improvement = \$90,000 L:P Ratio = 1:4
- b. Land = \$40,000 Improvement = \$80,000 \$120,000/4 = \$30,000 Land
- c. Land = \$80,000 Improvement = \$40,000 \$90,000 Building
- d. Land = \$90,000 Improvement = \$30,000

10. When the appraiser adjusts the sales prices of the comparable properties for the size of improvements the category of adjustment is?

- a. Market related adjustments
- b. Market condition
- c. **Subject related adjustments**
- d. Time adjustments

11. The subject property sold two years ago for \$250,000. It recently sold for \$295,000. What is the monthly rate of appreciation?

$$\begin{array}{r}
 \$295,000 \\
 \underline{-\$250,000} \\
 \$ 45,000
 \end{array}
 \qquad
 \begin{array}{r}
 \underline{\$45,000} = .18 \\
 \$250,000 \quad 24 \text{ mos.}
 \end{array}
 = .0075 \text{ or } 0.75\% \text{ monthly}$$

12. The subject property sold six (6) months ago for \$225,000. It recently sold for \$250,000. What is the monthly rate of appreciation?

$$\begin{array}{r}
 \$250,000 \\
 \underline{-\$225,000} \\
 \$25,000
 \end{array}
 \qquad
 \begin{array}{r}
 \underline{\$25,000} \\
 \$225,000 \quad 6 \text{ mos.}
 \end{array}
 \qquad
 .1111 = .0185 \text{ or } 1.85\%$$

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13. Sales Adjustment Grid

	SUBJECT	SALE #1	SALE #2	SALE #3	SALE #4
Sale Price		\$125,000	\$128,000	\$125,500	\$127,500
Date of Sale		Current	Current	Current	Current
Time Adjusted		\$125,000	\$128,000	\$125,500	\$127,500
Condition	Good	Fair +5,000	Good	Fair +5,000	Good
Imp Size	2,000	1,025 -2,500	950 +5,000	1,000	975 +2,500
Heat/Air	Heat/Air	Heat Only +2,500	Heat/Air	Heat Only +2,500	Heat/Air
Garage	2 Car	1 Car +3,000	2 Car	2 Car	1 Car +3,000
# Adjustments		4	1	2	2
Net Adj Amount		+\$8,000	+\$5,000	+\$7,500	+\$5,500
Indicated Value		\$133,000	\$133,000	\$133,000	\$133,000

Market Data:

- (1) Condition: Fair condition is \$5,000 less than good condition.
- (2) Size Adjustment: \$100 per square foot
- (3) Heat/Air: \$2,500 more than heat only.
- (4) Garage: 2 car garage is \$3,000 more than 1 car garage

\$133,000 based on comp 2 as most comparable to the subject and supported by the indicated values of the other sales.

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14. Develop a schedule of value (RCN) for residential frame, quality class 3 (RF-3) in the 1501-1600 square foot range.

	SALE 1	SALE 2	SALE 3	SALE 4	SALE 5	SALE 6
SALE PRICE	\$ 62,400	\$ 56,675	\$ 65,950	\$ 51,900	\$ 47,250	\$ 47,000
DATE OF SALE (MONTHS AGO)	6	3	2	0	6	0
APPRECIATION PER MONTH	1%	1%	1%	1%	1%	1%
TOTAL APPRECIATION	6%	3%	2%	0%	6%	0%
MULTIPLIER	1.06	1.03	1.02	1.00	1.06	1.00
SALES PRICE ADJUSTED	\$ 66,144	\$ 58,375	\$ 67,269	\$ 1,900	\$ 50,085	\$ 47,000
LAND CONTRIBUTORY VALUE	\$ 4,500)	\$ (6,000)	\$ 7,500)	\$ (8,000)	\$ (6,200)	\$ (6,000)
ADDITIVES	#1 Fireplace	NONE	#3 Pool	NONE	#4 Fence	#5 Cov Patio
	-3500		-4000		-1200	-2200
	#2HVAC					
	-5500					
RCNLD	\$ 52,644	\$ 52,375	\$ 55,769	\$ 43,900	\$ 42,685	\$ 38,800
PERCENT GOOD	0.87	0.92	0.94	0.76	0.73	0.65
RCN	\$ 60,510	\$ 56,930	\$ 59,329	\$ 57,763	\$ 58,473	\$ 59,692
SQ FT OF LIVING AREA	1587	1505	1566	1535	1544	1590
PRICE PSF	\$ 38.13	\$ 37.83	\$ 37.89	\$ 37.63	\$ 37.87	\$ 37.54

Contributory Values: (as of date of sale)

#1 Fireplace	-	\$3,500
#2 CACH	-	\$5,500
#3 Pool	-	\$4,000
#4 Fence	-	\$1,200
#5 Patio	-	\$2,200

Average price per square foot for schedule - \$37.81

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15. Based on the given information, which of the following sales is most comparable to the subject property?

Subject:

30 two (2) bedroom units rent for \$325/month each	\$117,000
25 three (3) bedroom units rent for \$375/month each	\$112,500
5 four (4) bedroom units rent for \$500/month each	<u>\$ 30,000</u>
	\$259,500

The expense ratio is 29%

Comparables:

<u>Sale</u>	<u>Sale Price</u>	<u>Annual Rent</u>	<u>Expense Ratio</u>
1.	\$1,625,000	\$250,000	30%
2.	\$1,250,000	\$175,000	32%
3.	\$2,000,000	\$312,500	28%
4.	\$2,500,000	\$350,000	25%

Sale #1 is most comparable based on rent and expense ratio.

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16. Estimate the market value of the commercial property using the gross rent multiplier (annual) method.

	<u>Comparable Sales Price</u>		<u>Rents for Comparables</u>	<u>Expense Ratio</u>
1)	\$3,000,000	/	\$461,538 per year = 6.5	30%
2)	\$2,500,000	/	\$316,455 per year = 7.9	33%
3)	\$4,000,000	/	\$625,000 per year = 6.4	27%
4)	\$5,000,000	/	\$666,667 per year = 7.5	26%

Subject Property:

60 two (2) bedroom units rent for \$325/month each	\$234,000
50 three (3) bedroom units rent for \$375/month each	\$225,000
10 four (4) bedroom units rent for \$500/month each	<u>\$ 60,000</u>
Expense ratio is 29%	\$519,000

Calculate the rent multiplier for each comparable and the potential gross rent for the subject. Using the most comparable property, calculate an estimated value for the subject.

$$\mathbf{\$519,000 \times 6.5 = \$3,373,500}$$

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17. Calculate the following Land to Building property ratios & values for the following:

(D) Land value is \$150,000 and total property value is \$900,000.

	# of Parts	Value
Land -	<u>1</u>	\$150,000
Building	<u>5</u>	<u>\$750,000</u>
Property -	<u>6</u>	\$900,000

(E) The total property value is \$500,000; the land value is \$100,000. The land to building ratio is 1:4.

	# of Parts	Value
Land -	<u>1</u>	<u>\$100,000</u>
Building	<u>4</u>	<u>\$400,000</u>
Property -	<u>5</u>	<u>\$500,000</u>

(F) The building value is \$100,000; the property value is \$125,000. The land to property ratio is 1:5.

	# of Parts	Value
Land -	<u>1</u>	<u>\$ 25,000</u>
Building	<u>4</u>	<u>\$100,000</u>
Property -	<u>5</u>	<u>\$125,000</u>

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Review Questions: Income Approach to Value

1. Calculate the following using IRV:

\$27,500

a. Rate = 10%, Value = \$275,000

\$722,222

b. Rate = 9%, Income = \$65,000

\$314,286

c. Income = \$33,000, Rate = 10.5%

\$90,000

d. Value = \$650,000, Rate = 0.12

.0531 or 5.31%

e. Income = \$45,987, Value = \$865,745

\$59,543

f. Rate = 0.14, Value = \$425,310

\$37,290

g. Value = \$248,600, Rate = 0.15

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0.0853 or 8.53%

h. Income = \$8,525, Value = \$100,000

0.10 or 10%

i. Value = \$105,000, Income = \$10,500

0.1154 or 11.54%

j. Value = \$650,000, Income = \$75,000

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2. A property has a total market value of \$1,000,000. The improvements have a value of \$800,000. The property produces \$125,000 in net operating income. Of that amount, \$32,000 is recapture income; the remainder is discount income. What is the recapture rate? The discount rate? The building cap rate?

Hint – This is not a band of investment problem, and it is not asking for the overall cap rate. Breakdown the income for the building and the discount.

Total Income (I _P)	\$125,000
Recapture Income (I _B)	<u>\$ 32,000</u>
Discount Income	\$ 93,000

- a. Recapture Rate

$$\frac{\$32,000 (I_B)}{\$800,000 (V_B)} = 0.04 \text{ or } 4\% \text{ Recapture Rate}$$

- b. Land Rate

$$\frac{\$93,000}{\$1,000,000 (V_P)} = 0.093 \text{ or } 9.3\% \text{ Discount (Land Rate)}$$

- c. Building Rate is equal to the Land Rate plus the recapture rate.

$$9.3\% + 4\% = 13.3\% \text{ Building Cap Rate}$$

3. To load or not to load?

- a. NOI After Taxes - \$252,685

Tax Rate \$1.87 $\frac{\$252,685}{1.1078} = \$2,344,017$

Cap Rate – 10.78% _____

- b. NOI After Taxes - \$ 97,243

Tax Rate \$1.36 $\frac{\$97,243}{1.0943} = \$1,031,209$

Cap Rate – 9.43% _____

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c. NOI Before Taxes - \$25,846

Tax Rate \$2.10

$$\$25,846 / .1395 = \$185,276$$

Cap Rate – 11.85%

d. NOI Before Taxes - \$185,369

Tax Rate \$2.45

$$\$185,369 / .1199 = \$1,546,030$$

Cap Rate – 9.54%

e. NOI Before Taxes - \$57,456

Tax Rate \$1.96

$$\$57,456 / .1069 = \$537,474$$

Cap Rate – 8.73%

f. NOI After Taxes - \$75,000

Tax Rate \$1.28

$$\$75,000 / .1327 = \$565,185$$

Cap Rate – 13.27%

g. NOI Before Taxes - \$35,851

Tax Rate \$1.59

$$\$35,851 / .1216 = \$294,827$$

Cap Rate – 10.57%

h. NOI Before Taxes - \$48,952

Tax Rate \$1.79

$$\$48,952 / .0928 = \$527,500$$

Cap Rate – 7.49%

i. NOI After Taxes - \$1,259,485

Tax Rate \$2.95

$$\$1,259,485 / .0956 = \$13,174,529$$

Cap Rate – 9.56%

j. NOI After Taxes - \$946,741

Tax Rate \$3.15

$$\$946,741 / .1484 = \$6,379,656$$

Cap Rate – 14.84%

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4. Land is 15% of a total property value. The discount (return ON) rate is 12%. The recapture rate is 4%. What is the overall capitalization rate?

Component	%	X	Rate		Solution
Land	0.15	X	0.12	=	0.01800
Building	0.85	X	0.16	=	<u>0.13600</u>
	1.00		(0.12+0.04)		0.15400

5. The property has a building to property ratio of 3:4. The building cap rate equals 14.5%. The recapture rate equals 2.5%. What is the overall cap rate?

Component	%	X	Rate		Solution
Land	0.25	X	0.12	=	0.03000
Building	0.75	X	0.145	=	<u>0.10875</u>
	1.00		(14.5-2.5)		0.13875

6. The property has a land to building ratio of 1:4. The land cap rate equals 8.5%. The recapture rate equals 4%. What is the overall cap rate?

Component	%	X	Rate		Solution
Land	0.20	X	0.085	=	0.01700
Building	0.80	X	0.125	=	<u>0.10000</u>
	1.00		(8.5%+4%)		0.11700

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7. An office building has two mortgages. The first mortgage is for 60% of value, has 12% annual interest, with 30-year amortization. The second mortgage is for 20% of value, has 16% annual interest with 30-year amortization. The owner anticipates an 18% equity cap rate. Using the band of investment method, what is the indicated overall cap rate?

NOTE: The mortgage constant for 12% annual interest for 30 years is .124144. (Mortgage cap rate)

The mortgage constant for 16% annual interest for 30 years is .161886. (Mortgage cap rate)

Component	%	X	Rate	=	Solution
Mortgage 1	0.60	X	0.124144	=	0.0745
Mortgage 2	0.20	X	0.161886	=	0.0324
Equity	0.20	X	0.18	=	<u>0.0360</u>
	1.00				0.1429

8. Projects comparable to the subject typically have a 50% first mortgage and a 25% second mortgage. The first mortgage is for 12.5% annual compounding for thirty years. The second mortgage terms are 14% annual compounding for thirty years. The equity capitalization rate equals 15.25%. What is the overall cap rate?

The mortgage constant for 12.5% annual interest for 30 years is .128760. (Mortgage cap rate)

The mortgage constant for 14% annual interest for 30 years is .142803. (Mortgage cap rate)

Component	%	X	Rate	=	Solution
Mortgage 1	0.50	X	0.128760	=	0.0644
Mortgage 2	0.25	X	0.142803	=	0.0357
Equity	0.25	X	0.1525	=	<u>0.0381</u>
	1.00				0.1382

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9. An office building has a net operating income of \$104,000. The following information on sales of other office buildings in area is available. What is the appropriate overall capitalization rate and why? What is the estimated appraised value?

Comp	Sale Price	NOI	Rate
1	\$ 1,176,000	\$ 147,000	0.1250
2	\$ 735,700	\$ 103,000	0.1400
3	\$ 544,000	\$ 87,000	0.1599
4	\$ 757,000	\$ 106,000	0.1400
VALUE OF SUBJECT	\$ 742,857	\$ 104,000	

Sales 2 and 4 have the most similar NOI and both have a cap rate of 0.14 or 14%.

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10. Calculate the property value using direct capitalization using a 14% cap rate.

Potential Gross Rent	\$245,875
Secondary Income 5% of EGR	
Depreciation	\$ 42,495
Property Taxes	\$ 20,174
Miscellaneous	\$ 2,015
Income Tax	\$ 35,769
Salaries	\$ 28,000
Supplies	\$ 585
VCL is 15%	
Utilities	\$ 82,000
Management 5% of EGI	
Insurance	\$ 3,500
New Pool	\$ 54,000
Reserves	
HVAC - \$25,000, 15-year life	
Painting - \$12,000, 12-year life	
Roof - \$35,000, 20-year life	

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ANSWER TO 10

RECONSTRUCTED OPERATING STATEMENT
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Potential Gross Rent		\$245,875		
Vacancy & Collection Loss	15%	(\$36,881)		
Effective Gross Rent		\$208,994		
Secondary Income	5%	\$10,450		
Effective Gross Income		\$219,443		
Management	5% of EGI	\$10,972		
Property Tax		\$20,174		
Insurance		\$3,500		
Staff Salaries		\$28,000		
Utilities		\$82,000		
Supplies		\$585		
Misc.		\$2,015		
*Reserves				
	HVAC (CACH)	1,667		
	Roof	1,750		
	Painting	1,000		
	Total Reserves	\$4,417		
Total Expenses		\$151,663		
Net Operating Income		\$67,781		
*Estimated Cost Reserves	RCN	Life		
	HVAC (CACH)	\$25,000	15	\$ 1,667
	Roof	\$35,000	20	\$ 1,750
	Painting	\$12,000	12	\$ 1,000

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ESTIMATED VALUE OF SUBJECT - $\$67,781 / .14 = \$484,147$

11. Given the following information, calculate an estimate of the property value:

EGI \$100,000

Cap Rate .12

Expenses \$22,000

$\$100,000 - \$22,000 = \$78,000$ NOI

$\$78,000 / .12 = \$650,000$

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Review Questions: Personal Property Appraisal

1. A manufacturer purchased equipment in 2010 for \$9,345. The cost index for 2010 is 629. The cost index for 2024 is 901. What happened to the cost of equipment like this between 2010 and 2022?
 - a. The price of this equipment remained the same, but inflation increased.
 - b. The cost of equipment like this increased. $846/628 = 1.432$**
 - c. The cost of this equipment rose by a factor of 735.
 - d. The cost of this equipment declined.

2. Use the table following this page to determine the percent of normal depreciation for a machine with an effective age of 8 years and a 10-year economic life.
 - a. 41%
 - b. 20%
 - c. 80%
 - d. 59%**

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Normal Depreciation					
Age	Economic Life				
	5 Yrs.	8 Yrs.	10 Yrs.	12 Yrs.	15 Yrs.
1	15	10	8	6	5
2	29	18	13	10	10
3	44	28	18	14	15
4	61	39	24	17	21
5	72	48	30	20	27
6		58	38	27	32
7		66	49	35	38
8		70	59	41	45
9			68	52	50
10			70	59	54
11				65	58
12				67	62
13				69	65
14					67
15					69
16					70

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3. Which property item is not an example of real property?
- a. Mineral interest
 - b. Standing timber
 - c. Communication tower**
 - d. Gravel pit
4. Which of the following property items is not exempt from property taxation?
- a. Property owned by the County compactor.
 - b. A U.S. Air Force jet
 - c. Property belonging to a non-profit elementary school.
 - d. A computer leased by a state senator's office.**
5. Which of the following does a Texas taxing unit have jurisdiction to tax?
- a. U.S. government property in Abilene, Texas
 - b. Inventory next to a Foreign Trade Zone.**
 - c. A moving van that stops overnight in Amarillo on a trip between Oklahoma and Arizona
 - d. Property in Lake Charles owned by resident of El Paso
6. Which is the best definition of "depreciation"?
- a. The age of a property in terms of condition and usefulness.
 - b. The decrease in market value that arises from a property's loss of usefulness.**
 - c. The cost of repairs and maintenance required prior to the sale of a property item.
 - d. The return on an investment in a given type of property in a given market.

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7. What is the best definition for “effective age” of an item of property?
- a. Effective age measures the age of property in terms of condition and usefulness.
 - b. Effective age is the amount of value remaining in an item.
 - c. Replacement cost new times the index factor gives effective age.
 - d. Effective age is the chronological age of personal property.
8. A computer is 32 percent good. Which arithmetic operation should be used to determine the current value of the computer?
- a. .32 times the replacement cost
 - b. Acquisition cost divided by 1.32.
 - c. Replacement cost minus .32
 - d. Replacement cost divided by 32.
9. An automobile with a replacement cost of \$54,956 has depreciated 20 percent. How much value has the automobile lost?
- a. \$43,965
 - b. \$53,857
 - c. **\$10,991**
 - d. \$1,099

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10. A business uses the average cost method to estimate its cost of inventory. On December 31 this company had 3,782 items on hand. The following information was obtained from its purchase journal.

Date	# Units Purchased	Amount Paid
1-Feb	5,000	\$ 7,600
1-Mar	4,800	\$ 7,440
1-Apr	4,500	\$ 7,020
1-May	6,000	\$ 9,480
1-Jun	12,000	\$ 19,200
1-Jul	3,000	\$ 4,890
1-Aug	4,200	\$ 6,888
1-Sep	4,500	\$ 7,380
1-Oct	4,800	\$ 7,920
1-Nov	4,200	\$ 7,056
TOTALS	53,000	\$ 84,874

What is the cost of the ending (12/31) inventory by the average cost method?

NOTE: Carry the average cost of one (1) item to four (4) decimal places. =

Average Cost per Unit = Total Dollars Spent / Total Units Purchased
(FORMULA ALERT)

$$\$84,874/53,000 = \$1.6014$$

Cost of Inventory using Average Cost Method

$$\text{Units Remaining in inventory} - 3,782 \times \$1.6014 = \$6,056.48$$

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11. The local department store uses the retail mark-up method for determining inventory valuation. On December 31, an inventory count was taken of the store and the following facts were determined:

Retail value of clothing - \$895,342.00

Retail value of accessories - \$276,957.00

The store uses a 35% mark-up for clothing and 55% mark-up for accessories.

What is the cost of the clothes inventory? $\$895,342 / 1.35 = \$663,216$

What is the cost of the accessories inventory? $\$276,957 / 1.55 = \$178,682$

12. An audit of the books and records of this company reveals the following information:

Fiscal Year July 1, 2022, through June 30, 2023

Actual Physical Inventory at cost on 7/1/2023 \$861,542

Purchases (July through December 2023) at cost \$242,624

Sales (August through December 2021) at retail \$318,800

Mark-up 40%

What is the book cost of the inventory on January 1, 2022?

Beginning Inventory @ Cost	\$861,542
+ Purchases @ Cost	+ \$242,624
- Less Sales @ Cost	- <u>\$227,714</u>
Ending Inventory @ Cost	\$876,452

Sales @ Cost (Cost of Goods Sold) = Sales at Retail $\$318,800 / 1.40 = \$227,714$

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13. A wholesaler of flip phones renders the following financial information, and, in addition, tells the appraiser that due to a recent a lack of demand, he believes the true value of his inventory is probably 10% percent less than cost.

RENDERED DATA:

COGS for the previous period		\$985,540
Sales at retail for the previous period		\$1,132,804
Sales for the current period @ Retail	=	\$569,285
Beginning inventory @ Cost	=	\$625,900
Purchases this period @ Cost	=	\$127,600

Calculate the owner's opinion of the market value of the inventory.

Data	Retail	COGS	Cost
Purchases at Cost			+\$ 127,600
Sales at Retail	\$569,285	0.87	-\$ 495,278
Inventory at Cost			+\$ 625,900
		TOTAL	\$ 258,222
Oversupply Factor	15%		90%
Owner's Opinion			\$ 232,400

14. Appraise the shoe store's tangible business personal property (SIC 5661, NAICS 448210):

SHOE STORE FLOOR PLAN:



The following information is available.:

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- 3) AVERAGE QUALITY, HIGH DENSITY FF&E AND MERCHANDISE INVENTORY
- 4) EFFECTIVE AGE OF FF&E IS 4 YEARS

Square Footage = 50 ft x 125 ft = 6,250 sq ft

Inventory

$$6,250 \text{ sq ft} \times \$35 \text{ per sq ft} = \$218,750$$

FFE

$$6250 \text{ sq ft} \times \$8 \text{ per sq ft} \times .67 \text{ percent good} = \underline{\underline{+\$33,500}}$$

$$\text{Personal Property Value} \quad \underline{\underline{\$252,250}}$$

Schedules:

Inventory Density Schedule

Shoe Store

QUALITY

DENSITY	FAIR	AVERAGE	GOOD
LOW	15.00	25.00	40.00
AVERAGE	20.00	30.00	45.00
HIGH	25.00	35.00	50.00

FF & E Density Schedule

Shoe Store

QUALITY

DENSITY	FAIR	AVERAGE	GOOD
LOW	3.00	5.00	10.00
AVERAGE	4.00	6.50	12.00
HIGH	5.00	8.00	14.00

USE 10 YEAR LIFE EXPECTANCY

Furniture, Fixtures & Equipment

Percent Good Table

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EFFECTIVE AGE	TYPICAL LIFE EXPECTANCY				
	15	12	10	8	5
1	95	94	92	90	85
2	90	87	84	79	69
3	85	80	76	67	52
4	79	73	67	54	34
5	73	66	58	43	23
6	68	58	49	33	18
7	62	50	39	26	
8	55	43	30	22	

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Review Questions: Mass Appraisal

1. In testing building schedules for 105,000 single family residences with a ratio study the appraisal district should try to get a sample size of how many residential properties?
 - a. 10,500
 - b. 105,000
 - c. **5,250**
 - d. 2,625

$105,000 \times 0.05 = 5,250$
2. Below are ten properties appraised by a CAD. Calculate the mean, median, mode, weighted mean, location adjustment, PRD and COD. Explain the PRD before neighborhood adjustment. Adjust the appraised values using the location adjustment, then recalculate the median and mean appraisal ratios.

Sale Price	Appraised Value
\$ 127,900	\$ 129,179
\$ 123,800	\$ 129,990
\$ 130,000	\$ 137,800
\$ 121,200	\$ 128,472
\$ 124,300	\$ 133,001
\$ 125,000	\$ 137,500
\$ 124,700	\$ 137,170
\$ 128,750	\$ 144,200
\$ 126,950	\$ 144,723
\$ 125,950	\$ 143,583

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Rank	A:S Ratio	Sale Price	Appraised Value	MCT	Abs Dev
1	1.01	\$127,900	\$129,179	1.09	0.08
2	1.05	\$123,800	\$129,990	1.09	0.04
3	1.06	\$130,000	\$137,800	1.09	0.03
4	1.06	\$121,200	\$128,472	1.09	0.03
5	1.07	\$124,300	\$133,001	1.09	0.02
6	1.10	\$125,000	\$137,500	1.09	0.01
7	1.10	\$124,700	\$137,170	1.09	0.01
8	1.12	\$128,750	\$144,200	1.09	0.03
9	1.14	\$126,950	\$144,723	1.09	0.05
10	1.14	\$125,950	\$143,583	1.09	0.05
Mean Ratio	1.09	\$1,258,550	\$1,365,618	TAD	0.35
				# Obs	10
Median	1.09			AAD	0.035
Mode	1.06, 1.10, 1.14			MCT	1.09
				COD	0.0321
Weighted Mean	\$1,365,618 \$1,258,550	1.09			
Location Adjustment	1/1.09=	0.92	Range	0.13	
PRD - Mean/Wtd Mean	1.09/1.09=	1.00	PRD 1, not regressive or progressive		

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After Adjustment	A:S Ratio	Sale Price	Appraised Value
1	0.93	\$127,900	\$118,845
2	0.97	\$123,800	\$119,591
3	0.98	\$130,000	\$126,776
4	0.98	\$121,200	\$118,194
5	0.98	\$124,300	\$122,361
6	1.01	\$125,000	\$126,500
7	1.01	\$124,700	\$126,196
8	1.03	\$128,750	\$132,664
9	1.05	\$126,950	\$133,145
10	1.05	\$125,950	\$132,096
	9.99	\$1,258,550	\$1,256,369
	1.00	Mean Ratio	
	1.00	Median Ratio	

3. Below is a set of sale prices and appraised values. Calculate the appraisal-to-sale ratios, mean, median, mode and weighted mean ratios. Calculate the range and the COD about the median. Calculate and explain what the PRD indicates about the appraisals.

	SALE PRICE	APPRAISAL
1.	\$129,000	\$103,397
2.	\$ 99,750	\$111,806
3.	\$ 84,500	\$ 94,640
4.	\$132,000	\$130,960
5.	\$317,500	\$176,707
6.	\$168,000	\$134,381
7.	\$137,400	\$129,862
8.	\$ 93,750	\$105,145

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Rank	A:S Ratio	Sale Price	Appraised Value	MCT	Abs Dev
2	0.80	\$129,000	\$103,397	0.97	0.17
6	1.12	\$ 99,750	\$111,806	0.97	0.15
7	1.12	\$ 84,500	\$ 94,640	0.97	0.15
5	0.99	\$132,000	\$130,960	0.97	0.02
1	0.56	\$317,500	\$176,707	0.97	0.41
3	0.80	\$168,000	\$134,381	0.97	0.17
4	0.95	\$137,400	\$129,862	0.97	0.02
8	1.12	\$ 93,750	\$105,145	0.97	0.15
Mean Ratio	0.93	\$1,161,900	\$986,898	TAD	1.24
				# Obs	8
Median		0.97		AAD	0.1550
Mode		1.12		MCT	0.97
				COD	0.1598
Weighted Mean	\$ 986,898 \$1,161,900	0.85			
Location Adjustment	1/0.93	1.08	Range	0.56	
PRD - Mean/Wtd Mean	0.93/0.85	1.09			

After Adj	A:S Ratio	Sale Price	Appraised Value
1	0.60	\$ 317,500	\$ 190,844
2	0.86	\$ 129,000	\$ 111,180
3	0.86	\$ 168,000	\$ 145,131
4	1.02	\$ 137,400	\$ 140,251
5	1.07	\$ 132,000	\$ 141,437
6	1.21	\$ 99,750	\$ 120,750
7	1.21	\$ 84,500	\$ 102,211

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8	1.21	\$ 93,750	\$ 113,557
		\$ 1,161,900	\$ 1,065,361
	1.01	Mean Ratio	
	1.05	Median Ratio	

4. Using interpolation and the information on the graph below, what is the appropriate schedule value for an improvement with 2,351 to 2,400 square feet?

- a. \$56.67 $\$62.00 - \$54.00 = \$8.00 / 3 = \2.67 $\$54.00 + \$2.67 = \$56.67$
- b. \$59.33
- c. \$51.33
- d. \$58.00

70.00	x							
69.00								
68.00								
67.00		X						
66.00								
65.00								
64.00			x					
63.00								
62.00				x				
61.00								
60.00								
59.00								
58.00								
57.00								
56.00								
55.00								
54.00							x	
53.00								
52.00								x
	2101 to 2150	2151 to 2200	2201 to 2250	2251 to 2300	2301 to 2350	2351 to 2400	2401 to 2450	2451 to 2500

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5. Which of the following best describes the benchmark property derived from these six properties? (Use the chart on the next page)
- a. Single-family residence, concrete slab, wood-frame construction, wood siding, no masonry veneer. Hip roof with good to excellent composition shingles. L or R shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes.
 - b. Single-family residence, concrete slab, wood-frame construction, wood siding with a maximum of 30 percent masonry-veneer. Hip or gable roof with good to excellent composition shingles. L or R shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes**
 - c. Single-family residence reinforced concrete slab, wood-frame construction, wood siding with a maximum of 30 percent masonry-veneer. Hip roof with excellent composition shingles. Any shape, with 1,200 to 2,000 square feet. Two baths, CACH, electrical service from 160 to 280 amperes.
 - d. Single-family residence, concrete slab, wood-frame construction with wood siding. Gable roof with good composition shingles. Any shape, with 1,200 to 2,000 square feet. One and one-half baths, CACH, electrical service from 160 to 280 amperes.

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PID	01	02
Use	Single-Family	Single-Family
Size	1,850	1,450
Shape	L	R*
Exterior Walls	Wood, 30 percent Brick	Wood, 15 percent Stone
Foundation	Reinforced Slab	Concrete Slab
Roof Shape	Hip	Gable
Roof Surface	Excel., Composition	Good, Composition
Elec. Service	240 AMPS	200 AMPS
Heating	CACH	Heat Pump
Cooling	CACH	Heat Pump
Baths	2 and 1/2	2
Amenities	Rear Deck, Pool	Detached Storage Shed
PID	03	04
Use	Single-Family	Single-Family
Size	1,250	1,400
Shape	R*	L
Exterior Walls	Wood	Wood
Foundation	Concrete Slab	Reinforced Slab
Roof Shape	Gable	Hip
Roof Surface	Good, Composition	Good, Composition
Elec. Service	160	240
Heating	Gas Jets	CACH
Cooling	Window Units	CACH
Baths	2	2
Amenities	Detached Storage Shed	None
PID	05	06
Use	Single-Family	Single-Family
Size	1,975	1,730
Shape	L	L
Exterior Walls	Wood, 30 percent Brick	Wood, 20 percent Stone
Foundation	Reinforced Slab	Reinforced Slab
Roof Shape	Hip	Gable
Roof Surface	Good, Composition	Excel., Composition
Elec. Service	280	240
Heating	CACH	Heat Pump
Cooling	CACH	Heat Pump
Baths	3	2
Amenities	Rear Deck, Hot Tub	Rear Deck

*R = Rectangular

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Review Questions: Property Tax Law

1. **Texas has jurisdiction to tax property:**
 - a. **In a state for more than a temporary period**
 - b. That does not have contact with the state.
 - c. That is in interstate transit.
 - d. That is simply passing through the state.

2. **The market value of an inventory is the price it would sell:**
 - a. In an arms-length transaction
 - b. In a going out of business sale
 - c. **To a purchaser who would continue the business**
 - d. To individuals if the entire inventory in a single day

3. **Property owners may appeal their value through binding arbitration if the property is a residence homestead or the appraised market value is:**
 - a. More than \$5 million
 - b. More than \$10 million
 - c. **\$5 million or less**
 - d. \$10 million

4. **A business personal property rendition must generally be filed by:**
 - a. **April 15**
 - b. May 30
 - c. June 1
 - d. June 15

5. **The Tax Code requires an appraisal district to comply with the Uniform Standards of Professional Appraisal practice when:**
 - a. **Using mass appraisal standards**
 - b. Appraising any type of property on an individual basis
 - c. Appraising industrials property
 - d. Appraising income producing property.

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6. The penalty imposed for failure to timely file a required rendition is what percentage of the taxes imposed on the property?
- a. Six
 - b. Ten**
 - c. Fifteen
 - d. Twenty
7. The primary source of law for appraisal districts is the:
- a. Uniform Standards of Professional Appraisal Practice
 - b. Rules of the Comptroller of Public Accounts
 - c. Property Tax Code**
 - d. Texas Appraisal Code
8. An appraisal district is classified as a:
- a. Political subdivision**
 - b. County department
 - c. Department of the Comptroller's Office
 - d. Part of the county tax office
9. A "meeting", in the Open Meetings statute, means any deliberation between:
- a. a quorum of members of a governmental body**
 - b. all members of a governmental body
 - c. any members of a governmental body and the public
 - d. any government officials
10. Under "Open Records ", all persons are entitled to full information unless:
- a. the agency declares it confidential.
 - b. access is denied by law.**
 - c. access could result in legal action.
 - d. the persons motives are suspect.

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11. Confidentiality of information should only be promised if confidentiality:
- is protected by law.
 - can be assured.
 - is reasonably certain.
 - is permitted by the governing body.
12. According to Tax Code, Sec. 1.11 (e) an agreement between the chief appraiser and the property owner or their agent is binding:
- only on the chief appraiser
 - only on the property owner or their agent
 - on all parties to the agreement**
 - agreements only if agreed to by the ARB.
13. According to Property Tax Code Sec. 22.07 (b) which of the following is NOT a requirement for the chief appraiser or his representative to have authority to inspect a business property?
- when it is convenient
 - must be during normal business hours.
 - at a time, agreeable to the chief appraiser (or his representative)
 - at a time, agreeable to the person in control of the premises
14. Property Tax Code Sec. 6.05 states that the board of directors of an appraisal district shall develop according to the requirements of Property Tax Code Sec. 25.18?
- Chief Appraiser annual review
 - Mass Appraisal Report
 - Biennial reappraisal plan not later than September 15th of each even-numbered year**
 - Annual Report

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15. Who appoints the Appraisal Review Board in an appraisal district subject to Tax Code Sec. 6.03?
- a. Local administrative judge
 - b. By a majority of the Appraisal District board of directors
 - c. Taxing units
 - d. County Commissioners