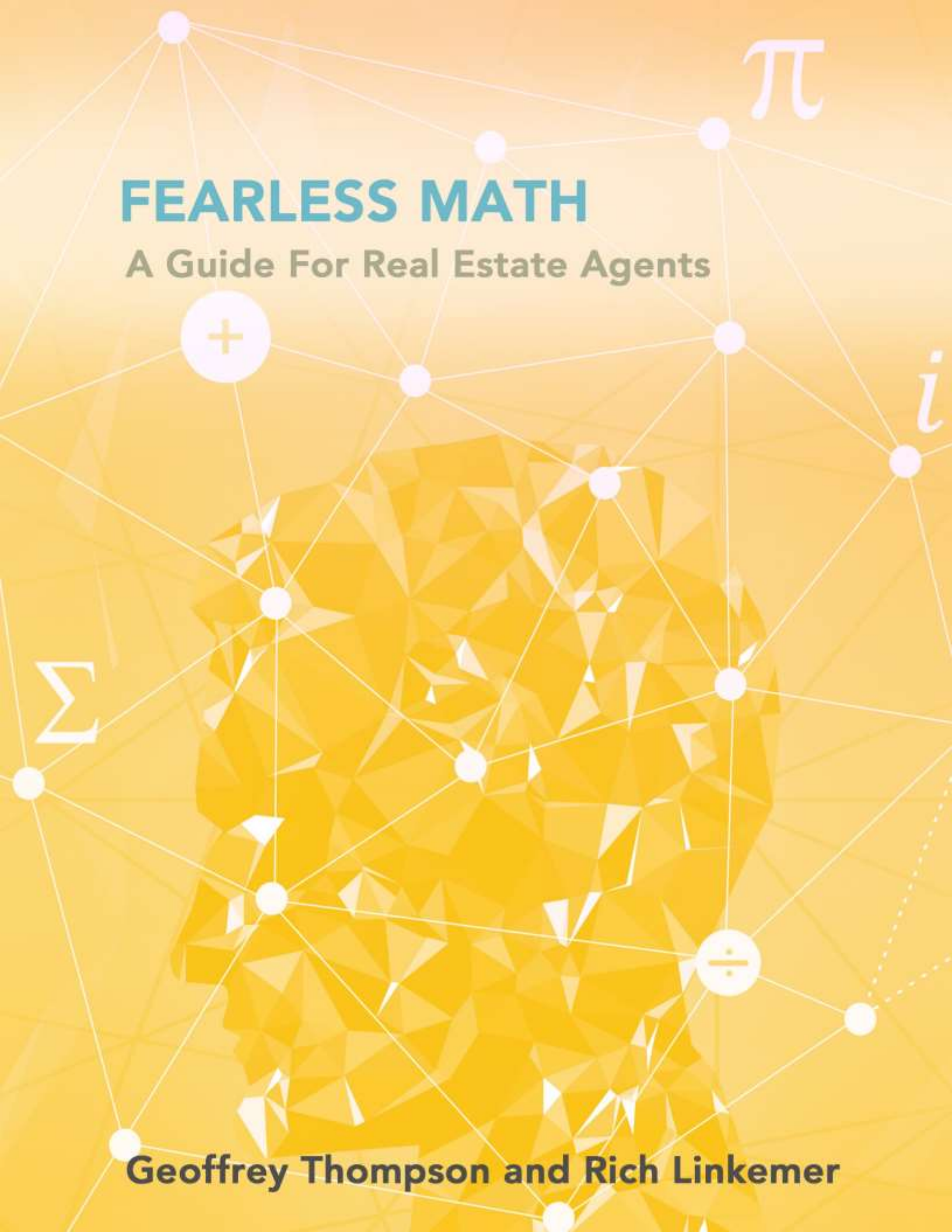
FEARLESS MATH

A Guide For Real Estate Agents



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Introduction – Our Approach

Research shows that the majority of all math problems that real estate professionals may face in their career boils down to three areas:

1. The math necessary to pass **the licensing exam**;
2. The math necessary to understand a **closing statement**;
3. The math used when **handling commissions**, payments etc. in practice.

In order to master *all three* of these different areas, it is important that you first understand the most recurring *situations*, and how to approach the calculations individually, before you tackle an entire closing statement. Accordingly, we will begin by introducing to you the most common math situations in real estate, which will both introduce the **methodology of handling answers**, as well as give you some easy problems to tackle that will get you "warmed up." In many cases, just by knowing *where* something goes (as a credit to the buyer or seller, or as a debit to the buyer or seller) you will have the answer.

With the confidence that those most common questions give you, we'll then have you move to the more typical situations where there may be multiple calculations necessary to answer a question. These situational exercises that come in the latter section most approximate the way most testing providers today present the Closing Statement on the licensing exam.

We recommend that you try to work the problem out on your own before you advance to the explanation on the succeeding page.

Many of the math questions you are requested to solve on the exam will entail more than one computation in that one test question. The ***best way*** to handle multiple computations within one question is to ***not clear*** your calculator and move on to the next computation. A good rule of thumb "don't sweat the small stuff" meaning if your answer is within pennies of an exam choice then pick that answer and move on. The difference is a ***function of rounding***. Test makers don't give distractors that are correct if the rounding is slightly different.

For Example:

A sale transaction closes on July 4th. The day of closing belongs to the seller. On January 1, the seller paid a hazard insurance premium of $375 for the calendar year. According to the 12-month/30-day method, what is the seller's share of the insurance premium?

a. $183.33.
b. $187.50.
c. $189.05.
d. $191.67.

To solve for this proration example:

1. The method assumes all months are 30 days and the year is 360 days.
2. We must figure out how many days are required to use in the math calculation. The seller will have owned the property for 184 days.
3. Now the computations begin (***do not clear out your calculator***):
   a. Daily proration is $375 ÷ 360 days = $1.041666 per day
   b. $1.04166 per day x 184 days = ***$191.6666***
   c. Look at your answers and round to two decimal places and we would have $191.67 as our answer.

If you clear out your calculator in each of the computations here is how your answer will look:

1. The method assumes all months are 30 days and the year is 360 days.
2. We must figure out how many days are required to use in the math calculation. The seller will have owned the property for 184 days.
3. Now the computations begin (***if you clear your calculator and round to two decimal places***):
   a. Daily proration is $375 ÷ 360 days = $1.04 per day
   b. $1.04 per day x 184 days = ***$191.36***
   c. Look at your answers you will not see that as one of your 4 choices choice. If you forget and clear out your calculator don't sweat the small stuff, there is a $.31 difference due to rounding. Test makers don't give distractors that are correct if the rounding is slightly different. Pick the best choice and move on.

Remember, the ***best way*** is to not clear out your calculator and keep moving through the computations until you are complete.

Helping Guide: Terminology

Prorations

With the exception of principal payments on a mortgage, many real estate expenses such as rent are paid in advance. However, other expenses such as real property taxes and interest on a mortgage are paid in arrears. Upon closing, these various expenses are prorated between the buyer and the seller to ensure that each is responsible for the operating expenses of the property during his or her ownership. The most common items to be prorated are sewer charges, interest on loans, rent, mortgage impounds, utilities, and real property taxes.

There are two methods which can be used for proration calculations - the 360-day year and 365-day year. The method used varies from state to state and industry to industry.

- A 360-day year is called a "Banker's year" and uses 30 days for each month (12 months X 30 days = 360 days).
- For 365-day year calculations, remember: 30 days has September, April, June and November. All the rest have 31 days, except February which has 28 days. (Do not worry about leap years.)

As we are including both methods in this math guide, if your course uses the **360-day method, follow the steps in blue.** If your course uses a **365-day year, follow the steps in red.**

Part-Whole Rate

To make real estate math easier to do and quicker to complete, the following formula has been devised. It will work on all types of real estate math, except area/volume problems, which require a different set of formulas. The "T" structure says that all math problems require three items to complete the task (or six in the case of taxation). The basic formula uses the parts of the "T" as Part, Whole and Rate:

- **Part** is always a "part" or piece of something, such as a commission is always part of the sales price.
- **Whole** is always the complete unit such as sale price, market value, or loan balance.
- **Rate** is always a percentage.

In the "T" formation, the **part is always put into the calculator first**. After this is entered, you must punch the divide button, and then enter the whole or rate, whichever is listed in the problem. The resulting number will be either whole or rate, which was not listed in the problem and is that for which you are searching.

The "T" lines are the **horizontal - divide line**. If you have part and whole, part is divided by whole. The **vertical line is the multiply line.** If you have rate, multiply it by sale price.

Helping Guide - Settlement-Statement Worksheet

Settlement Date	Buyer's Statement		Seller's Statement:	
Closing Date:	**Debit**	**Credit**	**Debit**	**Credit**
Sales Price	x			x
Seller's Loan			x	
Seller's Interest			x	
Seller's Prepayment			x	
Commission			x	
Other Seller's Charges**			x	
Earnest Money		x		
Buyer's Loan- New		x		
Buyer's Interest-new loan	x			
Buyer's Points (Discount points)-Loan Origination	x			
Insurance (if new)	x			
Appraisal & Credit Charge	x			
Other Buyer's Charges	x			
Taxes-not paid		x	x	
Chattels-personal property Refrigerator, washer, dryer	x			x
Assumed Insurance	x			x
SUBTOTAL	x	x	x	x
DUE to SELLER			x	
DUE from BUYER		x		
TOTALS	x	x	x	x

If taxes have been paid, then credit seller, and debit buyer.

Listings expire on the day of closing.

Legal descriptions include lot, block, subdivision, county, city, and state.

Section I – Fearless Math's Most Common Situations

Question #1 - Handling Purchase Price

If the purchase price on a property was $194,000, how would the purchase price appear on a full settlement statement?

Remember: The seller is selling and the buyer is buying. Whenever you debit one person and the other person is involved, you must debit and credit each of them the same amount.

a. Debit the seller $194,000; credit the buyer.
b. Credit the seller $194,000; debit the buyer.
c. Debit the seller $196,000; credit the buyer.
d. Credit the seller $196,000; debit the buyer.

Let's move on to the following page for the answer.

Question #1 - Handling Purchase Price - *Solution*

Let's look again at the question from the previous page:

If the purchase price on a property was $194,000, how would the purchase price appear on a full settlement statement?

Remember: The seller is selling and the buyer is buying. Whenever you debit one person and the other person is involved, you must debit and credit each of them the same amount.

a. Debit the seller $194,000; credit the buyer.
b. Credit the seller $194,000; debit the buyer.
c. Debit the seller $196,000; credit the buyer.
d. Credit the seller $196,000; debit the buyer.

Correct Answer: B – The seller sold the house so the seller gets a credit, and the buyer bought the house so the buyer is charged. Always be sure to use the purchase price, never the asking (or listed) price.

Let's move on to the following page for the next question.

Question #2 - Handling Loan Balance

How would a seller's loan balance to be paid off at closing be recorded on a closing (settlement) statement?

Remember: The buyer is not involved in the seller's paying off an old loan.

a. As a credit to the buyer
b. As a debit to the seller
c. As a credit to the buyer and seller
d. It is not recorded at all.

Remember to try to figure this out before you click to proceed to the following page.

Question #2 - Handling Loan Balance - *Solution*

Here is the question from Page 6 again:

How would a seller's loan balance to be paid off at closing be recorded on a closing (settlement) statement?

Remember: The buyer is not involved in the seller's paying off an old loan.

a. As a credit to the buyer
b. As a debit to the seller
c. As a credit to the buyer and seller
d. It is not recorded at all.

Correct Answer: B – The seller must be charged for what is still owed on the loan balance.

However, if the buyer assumed the loan to be paid off, in the question above, by the seller, than that amount would be a credit to the buyer and a debit to the seller on the closing (settlement) statement.

Okay, now it's time for the next question on the following page.

Question #3 – Handling Interest

How would the interest due from the seller for the time used in the current month of settlement appear on a settlement statement?

Assume for the test that all mortgages are paid on the first of the month in arrears! That means if a payment is made on January1, the payment was for the month of December (principal and interest). So if a mortgage is paid off in the middle of the month, the loan balance remains the same, but the seller owes interest back to the first of the month.

a. Debit the seller.
b. Credit the seller.
c. Debit the seller and credit the buyer.
d. The seller does not have to pay interest for the month of settlement.

Once you've tried to solve this on your own, go ahead to the following page to verify you've figured this out correctly.

Question #3 – Handling Interest - *Solution*

How would the interest due from the seller for the time used in the current month of settlement appear on a settlement statement?

Assume for the test that all mortgages are paid on the first of the month in arrears! That means if a payment is made on January1, the payment was for the month of December (principal and interest). So if a mortgage is paid off in the middle of the month, the loan balance remains the same, but the seller owes interest back to the first of the month.

a. **Debit the seller.**
b. Credit the seller.
c. Debit the seller and credit the buyer.
d. The seller does not have to pay interest for the month of settlement.

Correct Answer: A - If the seller owes interest, it is a debit (charge) to the seller. So of the closing takes place on the 15th of the month the seller would owe interest back to the first of the month for 15 days. If the buyer were assuming the loan, then the buyer would receive a credit for 15 days, owe interest for the rest of the month and pay the mortgage payment on the first of the following month just like the seller would have done if the property were not sold.

Time to move on to the following page for the next question.

Question #4 – Handling Prepayment Penalty

If the seller's bank charges a prepayment penalty*, how would it appear on a settlement statement?

*Prepayment penalty - The amount set by the creditor as a penalty to the debtor for paying off the debt before it matures; an early withdrawal charge.

a. Credit the buyer.
b. Credit the seller.
c. Debit the buyer.
d. Debit the seller.

Let’s take a look at the next page to see if you answered this one correctly.

Question #4 – Handling Prepayment Penalty - *Solution*

If the seller's bank charges a prepayment penalty*, how would it appear on a settlement statement?

*Prepayment penalty - The amount set by the creditor as a penalty to the debtor for paying off the debt before it matures; an early withdrawal charge.

a. Credit the buyer.
b. Credit the seller.
c. Debit the buyer.
d. Debit the seller.

Correct Answer: D - The seller sold the property and the Deed of Trust says that if the property is sold before the total term of the loan, the lender has a right to charge an extra charge. (Prepayment penalty)

We'll look at a commission question on the following page.

Question #5 – Handling Commission

If the seller agrees to pay the listing broker a commission, how would it appear on a settlement statement?

Remember: Debit whoever agrees to pay the commission.

a. Debit the seller and credit the buyer.
b. Credit the seller and debit the buyer.
c. Debit the seller.
d. Credit the seller.

Think about the answer to this question before going to the next page to find out the correct answer.

Question #5 – Handling Commission - *Solution*

If the seller agrees to pay the listing broker a commission, how would it appear on a settlement statement?

Remember: Debit whoever agrees to pay the commission.

a. Debit the seller and credit the buyer.
b. Credit the seller and debit the buyer.
c. Debit the seller.
d. Credit the seller.

Correct Answer: C – Debit the seller always the full amount, even if a question indicates a split between a selling and listing broker. In the unlikely event that you are told that the buyer has agreed to pay the commission, then debit the buyer. In other words, debit whoever has agreed to pay the commission.

Now let's move on to the next page for question number six.

Question #6 - Handling Fees

How would a deed preparation fee, title search fee and/or a home inspection fee be recorded on the closing statement?

Remember: Debit (if you take the "i" out of the word "debit" you have a debt) whoever agreed to pay the bill!

a. As a debit to whoever agreed to pay the charges.
b. As a credit to the buyer.
c. As a debit to the buyer and a credit to the seller.
d. As a debit to the seller and a credit to the buyer.

See if you can figure this out yourself before clicking to move ahead to the following page.

Question #6 - Handling Fees - *Solution*

How would a deed preparation fee, title search fee and/or a home inspection fee be recorded on the closing statement?

Remember: Debit (if you take the "i" out of the word "debit" you have a debt) whoever agreed to pay the bill!

a. **As a debit to whoever agreed to pay the charges**
b. As a credit to the buyer
c. As a debit to the buyer and a credit to the seller
d. As a debit to the seller and a credit to the buyer

Correct Answer: A – Debit (charge) whoever agrees to pay the deed preparation fee.

Let's go on to the following page for the next Question.

Question #7 - Handling Earnest Money

A buyer deposited $1,500 with the listing broker as earnest money. How is earnest money recorded on a closing statement?

Any money that someone else is bringing to the closing for the buyer is always a credit to the buyer. So earnest money would always be ____ to the buyer.

a. Credit $1,500 to both buyer and seller.
b. Credit $1,500 to the buyer; debit the seller $1,500.
c. Credit the buyer only $1,500.
d. Debit the seller only $1,500.

Can you figure out the correct answer to this? Let's go to the next page to see how you did.

Question #7 - Handling Earnest Money - *Solution*

A buyer deposited $1,500 with the listing broker as earnest money. How is earnest money recorded on a closing statement?

Any money that someone else is bringing to the closing for the buyer is always a credit to the buyer. So earnest money would always be ____ to the buyer.

a. Credit $1,500 to both buyer and seller.
b. Credit $1,500 to the buyer; debit the seller $1,500.
c. Credit the buyer only $1,500.
d. Debit the seller only $1,500.

Correct Answer: C – Credit the buyer because the broker, Title Company, or whoever is holding the money will bring the money to the closing table.

On the next page, we'll take a look at a settlement statement question.

Question #8 – Handling New Loans

How would a buyer's new loan be recorded on the closing (settlement) statement?

Remember: Someone else is bringing the loan to the closing!

a. As a credit to the buyer
b. As a debit to the seller
c. As a credit to the buyer and seller
d. It is not recorded at all.

Let’s go to the next page to find out the correct answer.

Question #8 – Handling New Loans - *Solution*

How would a buyer's new loan be recorded on the closing (settlement) statement?

Remember: Someone else is bringing the loan to the closing!

a. **As a credit to the buyer**
b. As a debit to the seller
c. As a credit to the buyer and seller
d. It is not recorded at all.

Correct Answer: A – Because the lender will bring this money to the closing for the buyer.

Question #9 – Handling Interest

If a closing occurred on June 15, and the buyer obtained a new loan, interest would be owed up to the end of the month of settlement. How would this entry appear on a settlement statement?

Remember: The buyer must pay interest up to the end of the month of settlement, so he actually pays interest in advance so that principal and interest can begin the first of the following month. Then when the buyers make their first payment they are paying in arrears for only one full month. So what are you going to do here?

a. Debit the seller.
b. Credit the buyer.
c. Debit the buyer.
d. Credit the seller.

Let's go ahead to the following page to find out the correct answer to this question.

Question #9 – Handling Interest - *Solution*

If a closing occurred on June 15, and the buyer obtained a new loan, interest would be owed up to the end of the month of settlement. How would this entry appear on a settlement statement?

Remember: The buyer must pay interest up to the end of the month of settlement, so he actually pays interest in advance so that principal and interest can begin the first of the following month. Then when the buyers make their first payment they are paying in arrears for only one full month. So what are you going to do here?

a. Debit the seller.
b. Credit the buyer.
c. Debit the buyer.
d. Credit the seller.

Correct Answer: C – Debit the buyer from the day of closing up to the end of the month. So the buyer would owe for 16 days. (Count on your fingers from the 15th to the 30th.)

Question #10 – Handling Loan Origination Fees

If a buyer obtains a new loan and the lender charges a loan origination fee (points), how would it appear on a settlement statement?

a. Debit the seller.
b. Credit the seller.
c. Credit the buyer.
d. Debit the buyer.

Question #10 – Handling Loan Origination Fees - *Solution*

If a buyer obtains a new loan and the lender charges a loan origination fee (points), how would it appear on a settlement statement?

a. Debit the seller.
b. Credit the seller.
c. Credit the buyer.
d. Debit the buyer.

Correct Answer: D – The buyer is getting a new loan from a lender who wants to charge an extra fee; so debit the buyer for the loan origination fee.

Question #11 – Handling Insurance

If the buyer purchases a new insurance policy, how would the entry appear on a settlement statement?

Who bought the policy? Who agreed to pay?

a. Debit the seller.
b. Debit the buyer.
c. Debit the buyer; credit the seller.
d. Credit the buyer; debit the seller.

Do you know the correct answer to this question? Let's go to the next page to find out.

Question #11 – Handling Insurance - *Solution*

If the buyer purchases a new insurance policy, how would the entry appear on a settlement statement?

Who bought the policy? Who agreed to pay?

a. Debit the seller.
b. Debit the buyer.
c. Debit the buyer; credit the seller.
d. Credit the buyer; debit the seller.

Correct Answer: B – Anything the buyer purchases is charged to the buyer.

Question #12 – Handling Appraisals and Credit Reports

If the buyer agreed to pay for an appraisal and credit report, how would it appear on the settlement statement?

Who agreed to pay?

a. Credit the buyer.
b. Credit the seller.
c. Debit the seller.
d. Debit the buyer.

Okay, let's go on to the next page and find out the correct answer.

Question #12 – Handling Appraisals and Credit Reports - *Solution*

If the buyer agreed to pay for an appraisal and credit report, how would it appear on the settlement statement?

Who agreed to pay?

a. Credit the buyer.
b. Credit the seller.
c. Debit the seller.
d. Debit the buyer.

Correct Answer: D – Same reason as on the previous question: Anything the buyer purchases is charged to the buyer.

Question #13 – Handling Taxes

If the taxes for the year 2010 WERE NOT paid and the property sold during the year, how would the entry appear on a full settlement statement?

The seller lived in the house for part of the year. The taxes are being paid in arrears, but they have NOT been paid. So who owes for taxes? Who should receive the money so the taxes can be paid at the end of the year?

Remember: Debit the seller and credit the buyer the same amount.

a. Debit the seller and credit the buyer.
b. Credit the seller and debit the buyer.
c. Debit the seller only.
d. Credit the buyer only.

Question #13 – Handling Taxes - *Solution*

If the taxes for the year 2010 WERE NOT paid and the property sold during the year, how would the entry appear on a full settlement statement?

The seller lived in the house for part of the year. The taxes are being paid in arrears, but they have NOT been paid. So who owes for taxes? Who should receive the money so the taxes can be paid at the end of the year?

Remember: Debit the seller and credit the buyer the same amount.

a. **Debit the seller and credit the buyer.**
b. Credit the seller and debit the buyer.
c. Debit the seller only.
d. Credit the buyer only.

Correct Answer: A – The seller has to give the money owed to the buyer so the taxes can be paid when they are due at the end of the year. Debit the seller and credit the buyer the same amount.

Question #14 – Handling Taxes

If the taxes for the year 2010 WERE paid in full and the property sold during the year, how would the entry appear on a full settlement statement?

The seller has paid for taxes that he/she is not going to use. What would be the right thing to do? Remember: Whatever you do for one you must do the same for the other.

Watch out for a question on the test that indicates that the taxes for the previous year (2009) have been paid, but the closing will not take place until the next (2010) year.

a. Debit the seller and credit the buyer.
b. Credit the seller and debit the buyer.
c. Debit the seller only.
d. Credit the buyer only.

Question #14 – Handling Taxes - *Solution*

If the taxes for the year 2010 WERE paid in full and the property sold during the year, how would the entry appear on a full settlement statement?

The seller has paid for taxes that he/she is not going to use. What would be the right thing to do? Remember: Whatever you do for one you must do the same for the other.

Watch out for a question on the test that indicates that the taxes for the previous year (2009) have been paid, but the closing will not take place until the next (2010) year.

a. Debit the seller and credit the buyer.
b. Credit the seller and debit the buyer.
c. Debit the seller only.
d. Credit the buyer only.

Correct Answer: B – Give the seller back the money paid that was not used. The seller has paid the taxes in advance, and that time is the responsibility of the buyer who will pay the taxes at the end of the year. Debit the buyer and credit the seller.

Question #15 – Handling Personal Property

If the buyer purchased personal property (washer, dryer, refrigerator, etc.) from the seller, how would these items appear on the settlement statement?

Who agreed to buy and who agreed to sell? Remember: Whatever you debit one you must credit the other.

a. Debit the buyer; credit the seller.
b. Credit the buyer; debit the seller.
c. Personal property should not appear on the statement.
d. Show these as a gift to the buyer.

Question #15 – Handling Personal Property - *Solution*

If the buyer purchased personal property (washer, dryer, refrigerator, etc.) from the seller, how would these items appear on the settlement statement?

Who agreed to buy and who agreed to sell? Remember: Whatever you debit one you must credit the other.

a. **Debit the buyer; credit the seller.**
b. Credit the buyer; debit the seller.
c. Personal property should not appear on the statement.
d. As a gift to the buyer.

Correct Answer: A – The buyer agreed to buy and the seller agreed to sell; so debit (charge) the buyer and credit the seller.

Let's look at a prepaid insurance policy proration question on the following page.

Question #16 – Handling Legal Descriptions

Which is the best example of a legal description on a property?

Remember: A good legal description never includes the address of the property!

a. Lot 4 Block 6 Quiet Village Subdivision, San Diego, California
b. Lot 4 Block 6 Quiet Village Subdivision, San Diego, California, better known as 1257 Bardot
c. As long as the surveyor can find the property, it doesn't matter.
d. Legal descriptions always have to be done by the geodetic survey system.

Let’s move on to the following page to find the answer to this question.

Question #16 – Handling Legal Descriptions - *Solution*

Which is the best example of a legal description on a property?

Remember: A good legal description never includes the address of the property!

a. **Lot 4 Block 6 Quiet Village Subdivision, San Diego, California.**
b. Lot 4 Block 6 Quiet Village Subdivision, San Diego, California, better known as 1257 Bardot.
c. As long as the surveyor can find the property, it doesn't matter.
d. Legal descriptions always have to be done by the geodetic survey system.

Correct Answer: A – Never include the address in a legal description for the state examination.

Question #17 – Handling Listings

If a property is listed for six months beginning on March 15, 2010, and a sale occurs with a closing on June 15, 2010, when does the listing expire?

If a property is sold and a closing takes place, when do you think it is reasonable that the listing should end?

a. May 1, 2010
b. June 15, 2010
c. September 15, 2010
d. December 15, 2010

Do you know the answer to this one? Go on to the following page to check your response against the correct one.

Question #17 – Handling Listings - *Solution*

If a property is listed for six months beginning on March 15, 2010 and a sale occurs with a closing on June 15, 2010, when does the listing expire?

If a property is sold and a closing takes place, when do you think it is reasonable that the listing should end?

a. May 1, 2010
b. June 15, 2010
c. September 15, 2010
d. December 15, 2010

Correct Answer: B – The listing expires the day of the closing on the property.

Question #18 – Handling Rents

A closing on a 20-unit apartment complex took place on June 15. The seller collected the rentals for the month from all the tenants. How would the rent proration appear on the settlement statement?

Remember: The seller collected rent for the entire month. Should the seller keep the money or give it to the buyer? Remember: Whatever you charge (debit) one you must credit the other.

a. Credit the seller.
b. Debit the seller.
c. Credit the buyer and debit the seller.
d. Debit the buyer and credit the seller.

Question #18 – Handling Rents - *Solution*

A closing on a 20-unit apartment complex took place on June 15. The seller collected the rentals for the month from all the tenants. How would the rent proration appear on the settlement statement?

Remember: The seller collected rent for the entire month. Should the seller keep the money or give it to the buyer? Remember: Whatever you charge (debit) one you must credit the other.

a. Credit the seller.
b. Debit the seller.
c. Credit the buyer and debit the seller.
d. Debit the buyer and credit the seller.

Correct Answer: C – The seller collected rent for the full month. The buyer is given the money for the time of ownership of the property. (The seller is credited for the day of closing unless you are told otherwise.)

Let's look at our last question in this set on the following page.

Question #19 – Handling Prepaid Utilities

The seller prepaid the water bill for an apartment complex from September 1 to December 30. The closing took place on October 30. How would the entry appear on a settlement statement?

Seller prepaid for water he is not going to use. Should he/she pay for it? Who should be debited and who should be credited the same amount?

a. Debit the buyer.
b. Credit the seller.
c. Credit the buyer and debit the seller.
d. Debit the buyer and credit the seller.

Question #19 – Handling Prepaid Utilities - *Solution*

The seller prepaid the water bill for an apartment complex from September 1 to December 30. The closing took place on October 30. How would the entry appear on a settlement statement?

Seller prepaid for water he is not going to use. Should he/she pay for it? Who should be debited and who should be credited the same amount?

a. Debit the buyer.
b. Credit the seller.
c. Credit the buyer and debit the seller.
d. Debit the buyer and credit the seller.

Correct Answer: D – The seller paid for time when the buyer will own the property. So the seller has to receive a refund and the buyer must be charged.

This completes the most common math situations and how you should handle them. Now we'll move on to other calculations that often will incorporate these same situations.

Section II – Calculating Commissions

The following section contains a number of examples relative to calculating the commission amount based on a sales price. Typically commissions are a percentage of the sale price. Use the "T" chart shown below to remember where things go:

Commission	
Sale Price	Commission Rate %

This chart illustrates graphically whether you are to DIVIDE (where the top variable 'commission' is over the other two variables) or MULTIPLY (where variables are NEXT TO each other.) If you are given a sale price and a commission rate: Multiply the price by the commission rate to obtain the amount of commission earned. If you are given the amount of the commission and the rate: Divide the amount of commission by the rate to establish the sale price. If you are given the amount of the commission and the sale price: Divide the amount of commission by the sale price to obtain the rate of commission earned.

Now let's go through some typical commission-related problems and calculations, to illustrate this subject. As you did with the last set of examples, try to work out the problem on your own before you go to the answer and explanation on the next page. We'll begin here with the first example:

Question #1

The sellers sold their property for $95,000. They paid the broker a 6% commission. How much did they pay in commission to the broker?

a. $1,401
b. $2,500
c. $5,700
d. $7,300

Once you've solved this on your own, let's move ahead to the following page to look at the correct answer.

Question #1 - *Solution*

The sellers sold their property for $95,000. They paid the broker a 6% commission. How much did they pay in commission to the broker?

a. $1,401
b. $2,500
c. $5,700
d. $7,300

Correct Answer: C - $95,000 X 6% = **$5,700**.

If you are going to use the T formula to help you with math, then in this problem the sale price goes on the left side and the rate on the right side. Side by side you will always multiply. If you learn to use the % key in the calculator it will serve you well. In this problem if you put the sale price in your calculator, push the multiplication key, put in the 6, and hit the % key, you will obtain the answer without having to convert the % to a decimal. By the way, always enter the entire number and do not take any short cuts in all of the problems we are going to do. If you are using an expensive calculator, you may have to push the = key to get the answer. If in this problem you do not obtain the answer of 5,700, then you need to use the = key on every problem you do.

Question #2

A house sold for $165,000, and the total commission received by the broker was $12,375. What was the rate of commission?

a. 5.6%
b. 7.5%
c. 8.5%
d. 9.75%

Try to figure this out yourself before checking your answer against the correct answer on the following page.

Question #2 - *Solution*

A house sold for $165,000, and the total commission received by the broker was $12,375. What was the rate of commission?

a. 5.6%
b. 7.5%
c. 8.5%
d. 9.75%

Correct Answer: B - $12,375 divided by $165,000 = **7.5%**

In this problem you are solving for the % of commission paid. If you're using the T formula, place the $12,375 on the top of the T and the sale price of $165,000 on the left side of the T. Remember that commission is always based on the sale price and never on the list price unless they are one and the same. With a number on the top and a number on the bottom, always divide the top number by the bottom number. The top number goes into the calculator first and then press the division key, enter the sale price, and press the % key, then = to obtain the answer of 7.5%. It will not be necessary to convert the answer to a dollar amount.

Let's move on to another question on the following page.

Question #3

The agreed-upon purchase price was $360,000 and the seller agreed to pay a 6% commission. The listing broker split the total fee with the selling broker. How much did the seller owe, and how would it appear on the settlement statement?

Remember: The full amount of the commission goes on the settlement statement.

a. $21,600 - Debit the seller.
b. $10,800 - Credit the seller.
c. $9,800 - Debit the buyer.
d. $8,000 - Credit the buyer.

See if you can figure this out before you go to the following page for the correct answer.

Question #3 - *Solution*

The agreed-upon purchase price was $360,000 and the seller agreed to pay a 6% commission. The listing broker split the total fee with the selling broker. How much did the seller owe, and how would it appear on the settlement statement?

Remember: The full amount of the commission goes on the settlement statement.

a. **$21,600 - Debit the seller.**
b. $10,800 - Credit the seller.
c. $9,800 - Debit the buyer.
d. $8,000 - Credit the buyer.

Correct Answer: A - $360,000 X 6% = **$21,600**

The sale price and the commission call for you to place the sale price of $360,000 on the left of the T, and the 6% on the right side and multiply.

Question #4

The list price on a property was $275,000. A buyer made an offer of $265,000 and the seller countered the offer at $272,500, which was accepted by the buyer. The seller agreed to pay the listing broker a 7% commission at closing. What is the amount of commission due the listing broker, and how would it appear on the settlement statement?

Be careful here of the "detractors" in the question.

a. $15,900 - Credit the buyer.
b. $19,075 - Debit the seller.
c. $19,250 - Credit the seller.
d. $20,900 - Debit the seller.

Let’s move on to the following page for the correct answer.

Question #4 - *Solution*

The list price on a property was $275,000. A buyer made an offer of $265,000 and the seller countered the offer at $272,500, which was accepted by the buyer. The seller agreed to pay the listing broker a 7% commission at closing. What is the amount of commission due the listing broker, and how would it appear on the settlement statement?

Be careful here of the "detractors" in the question.

a. $15,900 - Credit the buyer.
b. $19,075 - Debit the seller.
c. $19,250 - Credit the seller.
d. $20,900 - Debit the seller.

Correct Answer: B - $272,500 X 7% =19,075 debit the seller.

The only amount you are concerned with in this problem is the agreed upon sale price and the commission rate. The offer and counter offer are detractors.

Let’s look at the fifth commission-related question on the following page.

Question #5

A broker listed a home for $195,000 and sold it for 90% of the list price. If the home was listed at 7.5% selling commission and the split was 55% to the listing broker and 45% to the selling broker, how much did the selling broker receive?

Watch out for a similar question that might say, "The seller sold the property for $195,000 WHICH WAS 90% OF THE LIST PRICE." The answer would be different!

a. $14,625
b. $13,162.50
c. $5,923.13
d. $7,239.38

Can you solve this before going forward to the next page? Try it and see!

Question #5 - *Solution*

A broker listed a home for $195,000 and sold it for 90% of the list price. If the home was listed at 7.5% selling commission and the split was 55% to the listing broker and 45% to the selling broker, how much did the selling broker receive?

Watch out for a similar question that might say, "The seller sold the property for $195,000, WHICH WAS 90% OF THE LIST PRICE." The answer would be different!

a. $14,625
b. $13,162.50
c. $5,923.13
d. $7,239.38

Correct Answer: C - The first thing you have to do in this problem is figure out how much 90% of the sale price amounts to -- like this $195,000 X 90% = $175,500 sale price. Now multiply $175,500 X 7.5% =$13,162.50, which is the full amount of the commission, but not the final answer. (B is a detractor.) To figure out how much the listing broker earned, multiply $13,162.50 X 45% = $5,923.13.

*If you were asked how much **the listing broker had earned, then the answer would be D.***

Let's go ahead to the sixth question.

Question #6

How much were Sally's sales for the year if she was paid a total of $85,000 in commission and she received 4.5% commission on sales for the first $500,000 and 6% for sales over that amount?

First find out how much she earned for the 1st $500,000. Subtract that from the total she earned. Then divide that number by 6%. Don't forget to add the two totals together to get her TOTAL SALES VOLUME.

a. $1,041,666.67
b. $1,541,666.67
c. $1,651,001.67
d. $2,100,999.67

Question #6 - *Solution*

How much were Sally's sales for the year if she was paid a total of $85,000 in commission and she received 4.5% commission on sales for the first $500,000 and 6% for sales over that amount?

First find out how much she earned for the 1st $500,000. Subtract that from the total she earned. Then divide that number by 6%. Don't forget to add the two totals together to get her TOTAL SALES VOLUME.

a. $1,041,666.67
b. $1,541,666.67
c. $1,651,001.67
d. $2,100,999.67

Correct Answer: B - This problem is a little different, but it is not hard to get the right answer. First find out how much Sally earned on the first $500,000 by multiplying by 4.5%.

$500,000 X 4.5% = $22,500. Now subtract that amount from the total earned of $85,000.

$85,000 minus $22,500 = $62,500

Now divide the $62,500 by 6% = $1,041,666.67, which is the sales volume that was necessary to earn this amount of commission. Notice answer A is a detractor. Now to get the right answer, add $1,041,666.67 + $500,000 =$1,541,666.67 to get the TOTAL volume to produce the $85,000.

Question #7

Jim was hired to manage a property for 8 years. Based on the gross annual income of $90,000, he was to receive a 6% commission on the first year; 5% on years 2 and 3; then 3% over the rest of the term. How much did he collect?

Just multiply the commission rates times $90,000 for each year, and you will have the answer.

a. $14,400
b. $25,200
c. $27,900
d. $28,600

Question #7 - *Solution*

Jim was hired to manage a property for 8 years. Based on the gross annual income of $90,000, he was to receive a 6% commission on the first year; 5% on years 2 and 3; then 3% over the rest of the term. How much did he collect?

Just multiply the commission rates times $90,000 for each year, and you will have the answer.

a. $14,400
b. $25,200
c. $27,900
d. $28,600

Correct Answer: C - This is another learning experience for you. You need to figure out how much commission was earned for a total of 8 years. Here are the steps:

Step 1 - $90,000 X 6% = $5,400 earned for year 1.

Step 2 - $90,000 X 5% = $4,500 X 2 years =$9,000

Step 3 - $90,000 X 3% = $2,700 X 5 years =$13,500

Step 4 - add them up $5,400 + $9000 + 13,500 =$27,900

Section III - Taxes

- Step 1: Determine if taxes have or have not been paid. Watch out for a "Detractor" indicating that the taxes for the year before closing were paid in full. That has nothing to do with the question at all.
- Step 2: Figure the time for which the seller owes or receives a credit. Break it down to a daily number.
- Step 3: Determine which proration method you are using (360 or 365).
- Step 4: Figure the amount of money involved and multiply by the number of days that are owed. In most cases you will be debiting the seller and crediting the buyer unless the taxes have been paid in full for the year.
- **For the 360-day method**, if a closing takes place on June 30 and the taxes have not been paid, the seller owes for a full six months (6 X 30 = 180 days). However, if the closing took place on June 15, the seller would owe for 5 months and 15 days (5 X 30 = 150 + 15 = 165). You would debit the seller and credit the buyer for 165 days. If the taxes were $1,200 a year, divide that by 360 ($1,200 ÷ 360 = 3.333 Do NOT clear your calculator). $3.33 a day X 165 = $550, debit the seller and credit the buyer.
- **Using the 365-day method** for the above problem, the seller owes January – June for a full six months (January 31 days, February 28 days, March 31 days, April 30 days, May 31 days and June 30 days = 181 days). However, if the closing took place on June 15, the seller would owe for 5 months and 15 days. So you would debit the seller and credit the buyer for 166 days. If the taxes were $1,200 a year, divide that by 365 ($1,200 ÷ 365 = $3.29 - Do NOT clear your calculator) $3.29 a day X 166 = $545.75, debit the seller and credit the buyer.

Again, we're going to give you the opportunity to put this information into the context of questions so you can learn how to properly utilize it, beginning on the following page. Make sure you use the appropriate method (360 or 365) for your course.

Question #1

The taxes for the year 2010 were $1,080 annually, and were to be paid in arrears (seller lived in the property and has not paid the taxes). The closing took place on August 28, 2010. What was the prorated portion of taxes to be paid by the seller?

Remember: Whatever you debit one party you must credit the other the same amount.

360-day method choices:

a. $366
b. $645
c. $714
d. $801

365-day method choices:

a. $362.56
b. $645
c. $710.14
d. $803.01

Use the calculation method applicable to your state and see if you can figure this out before you go to the answer on the following page.

Question #1 - *Solution*

The taxes for the year 2010 were $1,080 annually, and were to be paid in arrears (seller lived in the property and has not paid the taxes). The closing took place on August 28, 2010. What was the prorated portion of taxes to be paid by the seller? Assume the seller owns the day of closing.

Remember: Whatever you debit one party you must credit the other the same amount.

First figure out how long the seller lived in the property, and determine if the taxes have been or have not been paid. In this case the taxes are paid in arrears, which means they have not been paid for the time the seller owned the property. The seller lived in the property for 7 full months (January, February, March, April, May, June, July) and 28 days in August. It is easy to make a mistake here and count 8 months and 28 days; so be very careful not to make that mistake.

360-day method choices:

a. $366
b. $645
c. $714
d. $801

Correct Answer: C - It is best to break the 7 months and 28 days into all days, remembering that for the test every month has 30 days. So 30 X 7 = 210 days + 28 days = 238 days. Now you know the time the seller owns, so now we will deal with the annual taxes and break them down into days also. So $1,080 divided by 360 days in every year = $3.00 a day. Now multiply $3.00 X 238 days = $714.

365-day method choices:

a. $362.56
b. $645
c. $710.14
d. $803.01

Correct Answer: C - The seller owes for 31 + 28 + 31 + 30 + 31 + 30 + 31 + 28 = 240 days. Now you know the time the seller owns, so now we will deal with the annual taxes and break them down into days also. So $1,080 divided by 365 days in every year = $2.96 a day. Now multiply, without clearing your calculator $2.96 X 240 days = $710.14

Let's go to the next page for the next example.

Question #2

How would the taxes that have not been paid by the seller be displayed on a full balance sheet (settlement statement)?

a. Debit the seller only.
b. Debit the buyer only.
c. Debit the seller; credit the buyer.
d. Debit the buyer; credit the seller.

Let's move ahead to the following page for the answer.

Question #2 - *Solution*

How would the taxes that have not been paid by the seller be displayed on a full balance sheet (settlement statement)?

a. Debit the seller only.
b. Debit the buyer only.
c. Debit the seller; credit the buyer.
d. Debit the buyer; credit the seller.

Correct Answer: C - As indicated in the last problem, the seller has not paid the taxes for the time lived in the property; so debit the seller and credit the buyer. The buyer will take that amount and add it to the amount needed to pay the taxes at the end of the year.

Question #3

A sale closed on March 15, 2010. Real estate taxes for the current year (2010) were not paid. Taxes for 2009 amounted to $1,340 and they were paid in full by the seller. (WATCH OUT HERE!) **What was the amount of the real estate tax proration to be credited to the buyer?**

360-day method choices:

a. $223.33
b. $279.16
c. $1,060.84
d. $1,116.

365-day method choices:

a. $223.33
b. $271.67
c. $1,060.84
d. $1,116.

The answer to this question is on the following page.

Question #3 - *Solution*

A sale closed on March 15, 2010. Real estate taxes for the current year (2010) were not paid. Taxes for 2009 amounted to $1,340 and they were paid in full by the seller. (WATCH OUT HERE!) **What was the amount of the real estate tax proration to be credited to the buyer?**

This problem is the same as the previous one except the closing date is different, and so are the detractors. First the closing date is March 15, 2010, and the taxes are not paid for that year. The taxes for the previous year were paid in full, but all you care about is that the taxes were $1,340 in 2009. As long as you are not given a different number, the taxes for the closing year remain the same. Again, dealing with time first: The seller owned the house for 2 months and 15 days, which need to be paid for so the buyer can pay the taxes at the end of the year.

360-day method choices:

a. $223.33
b. $279.16
c. $1,060.84
d. $1,116.

Correct Answer: B - Breaking it down to days will give you 75 (30 + 30 + 15 = 75) days that the seller needs to pay at closing. Now deal with the money part of the question, and figure out a daily cost that the seller owes. $1,340 divided by 360 days = 3.72 a day X 75 days = $279.16 debit the seller and credit the buyer.

365-day method:

a. $223.33
b. $271.67
c. $1,060.84
d. $1,116.

Correct Answer: B - Breaking it down to days will give you January 31 days + February 28 days + March 15 days = 74 days that the seller needs to pay at closing. Now deal with the money part of the question, and figure out a daily cost that the seller owes. $1,340 divided by 365 days = 3.67 a day and again without clearing your calculator X 74 days = $271.67 debit the seller and credit the buyer.

Let's go on to the fourth question, on the following page.

Question #4

Prorate the annual tax bill of $1,638 for the calendar year of 2010. The sale closed on April 17, 2010. Assume that the taxes were not paid by the seller.

Taxes on the state examination will usually be paid in arrears--seller has not paid them, but lived in the property.

360-day method choices:

a. Debit the seller $486.85; credit the buyer $1,151.15.
b. Debit the buyer $486.85; credit the seller $1,151.15.
c. Debit the seller $486.85; credit the buyer $486.85.
d. Debit the seller $1,151.15; credit the buyer $1,151.15.

365-day method choices:

a. Debit the seller $480.18; credit the buyer $1,157.82.
b. Debit the buyer $480.18; credit the seller $1,157.82.
c. Debit the seller $480.18; credit the buyer $480.18.
d. Debit the seller $1,157.82; credit the buyer $1,157.82.

Try to figure out this question before checking out the answer on the following page.

Question #4 - *Solution*

Prorate the annual tax bill of $1,638 for the calendar year of 2010. The sale closed on April 17, 2010. Assume that the taxes were not paid by the seller.

Taxes on the state examination will usually be paid in arrears - seller has not paid them, but lived in the property. This is the same problem with a different closing date and cost per year.

360-day method choices:

a. Debit the seller $486.85; credit the buyer $1,151.15.
b. Debit the buyer $486.85; credit the seller $1,151.15.
c. Debit the seller $486.85; credit the buyer $486.85.
d. Debit the seller $1,151.15; credit the buyer $1,151.15.

Correct Answer: C - Closing date – April 17, 2010, which means the seller owns for 3 months and 17 days or 107 days. The taxes for the year were $1,638 divided by 360 days = $4.55 X 107 = $486.85 debit the seller and credit the buyer.

365-day method choices:

a. Debit the seller $480.18; credit the buyer $1,157.82.
b. Debit the buyer $480.18; credit the seller $1,157.82.
c. Debit the seller $480.18; credit the buyer $480.18.
d. Debit the seller $1,157.82; credit the buyer $1,157.82.

Correct Answer: C - Closing date – April 17, 2010, which means the seller owns for January 31 days, February 28 days, March 31 days and 17 days = 107 days. The taxes for the year were $1,638 divided by 365 days = $4.49 X 107 =$480.18 debit the seller and credit the buyer.

Question #5

The taxes for the year 2009 (WATCH OUT FOR THE DETRACTOR HERE) **were $1,936. They were paid in arrears, and paid in full. If the property sold and the transaction closed on November 15, 2010, what was the amount of the tax proration, and how did it appear on the settlement statement?**

360-day method choices:

a. Debit the buyer $242; credit the seller $242.
b. Credit the buyer $242; debit the seller $1,694.
c. Debit the seller $1,694; credit the buyer $242.
d. Credit the buyer $1,694; debit the seller $1,694.

365-day method choices:

a. Debit the buyer $243.99; credit the seller $243.99.
b. Credit the buyer $243.99; debit the seller $1,692.01.
c. Debit the seller $1,692.01; credit the buyer $243.99.
d. Credit the buyer $1,692.01; debit the seller $1,692.01.

See if you can figure out this question before you go on the following page.

Question #5 - *Solution*

The taxes for the year 2009 (WATCH OUT FOR THE DETRACTOR HERE) **were $1,936. They were paid in arrears, and paid in full. If the property sold and the transaction closed on November 15, 2010, what was the amount of the tax proration, and how did it appear on the settlement statement?**

If you read this problem carefully you will note the detractor of the taxes being paid in full for the previous year and ignore it. The closing took place on November 15, 2010, and the taxes are not paid just as in the previous questions.

360-day method choices:

a. Debit the buyer $242; credit the seller $242.
b. Credit the buyer $242; debit the seller $1694.
c. Debit the seller $1,694; credit the buyer $242.
d. Credit the buyer $1,694; debit the seller $1,694.

Correct Answer: D - The seller owes for 10 months and 15 days or 315 total days. Taxes were $1,936 divided by 360 days = $5.38 a day X 315 days = $1,694 debit the seller and credit the buyer.

365-day method choices:

a. Debit the buyer $243.99; credit the seller $243.99.
b. Credit the buyer $243.99; debit the seller $1,692.01.
c. Debit the seller $1,692.01; credit the buyer $243.99.
d. Credit the buyer $1,692.01; debit the seller $1,692.01.

Correct Answer: D - The seller owes for 10 months and 15 days or January 31 days, February 28 days, March 31 days, April 30 days, May 31 days, June 30 days, July 31, August 31, September 30, October 31, and November 15 days = 319 days owned by the seller. Taxes were $1,936 divided by 365 days = $5.30 a day X 319 days = $1,692.01 debit the seller and credit the buyer. – **Answer D**

Question #6

A closing took place on July 31, 2010. The taxes were to be paid in arrears in the amount of $1,485. How much did the seller owe in taxes, and how did the proration appear on a full settlement statement? Assume the seller owns the day of closing.

360-day method choices:

a. Debit seller $1,485; credit buyer $1,485.
b. Credit seller $1,485; debit buyer $1,485.
c. Debit seller $866.25; credit buyer $866.25.
d. Credit seller $866.25; debit buyer $866.25.

365-day method choices:

a. Debit seller $1,485; credit buyer $1,485.
b. Credit seller $1,485; debit buyer $1,485.
c. Debit seller $862.52; credit buyer $862.52.
d. Credit seller $862.52; debit buyer $862.52.

Can you figure out the correct answer? Once you've tried to solve the question on your own, go ahead to the following page for the answer.

Question #6 - *Solution*

A closing took place on July 31, 2010. The taxes were to be paid in arrears in the amount of $1,485. How much did the seller owe in taxes, and how did the proration appear on a full settlement statement? Assume the seller owns the day of closing.

360-day method choices:

a. Debit seller $1,485; credit buyer $1,485.
b. Credit seller $1,485; debit buyer $1,485.
c. Debit seller $866.25; credit buyer $866.25.
d. Credit seller $866.25; debit buyer $866.25.

Correct Answer: C - The seller owes for a full seven (7) months. Do not pay any attention to the extra day of closing on the 31st of the month. The taxes for the year were $1,485 and you only need to divide that number by 12 = $123.75 a month X 7 = $866.25 debit the seller and credit the buyer.

365-day method choices:

a. Debit seller $1,485; credit buyer $1,485.
b. Credit seller $1,485; debit buyer $1,485.
c. Debit seller $862.52; credit buyer $862.52.
d. Credit seller $862.52; debit buyer $862.52.

Correct Answer: C - The seller owes for January – July: Jan 31 days + Feb 28 days + Mar 31 days + April 30 days + May 31 days + June 30 days + July 31 days = 212 days. The taxes for the year were $1,485, so divided by 365 days = $4.068 x 212 days = $862.52 debit the seller and credit the buyer.

Let's move on now to Question #7.

Question #7

The taxes for the year 2010 were $600, and were to be paid in arrears. The closing took place on June 15, 2010. How much was the tax proration, and how did it appear on a full settlement statement?

360-day method choices:

a. Credit the buyer $600 and debit the seller the same amount.
b. Debit the buyer $600 and credit the seller the same amount.
c. Debit the buyer $275 and credit the seller the same amount.
d. Credit the buyer $275 and debit the seller the same amount.

365-day method choices:

a. Credit the buyer $600.32 and debit the seller the same amount.
b. Debit the buyer $600.32 and credit the seller the same amount.
c. Debit the buyer $272.88 and credit the seller the same amount.
d. Credit the buyer $272.88 and debit the seller the same amount.

Question #7 - *Solution*

The taxes for the year 2010 were $600, and were to be paid in arrears. The closing took place on June 15, 2010. How much was the tax proration, and how did it appear on a full settlement statement?

360-day method choices:

a. Credit the buyer $600 and debit the seller the same amount.
b. Debit the buyer $600 and credit the seller the same amount.
c. Debit the buyer $275 and credit the seller the same amount.
d. Credit the buyer $275 and debit the seller the same amount.

Correct Answer: D - The seller owes for 5 months and 15 days = 165 days. The taxes were $600 a year divided by 360 days = 1.67 a day X 165 = $275 debit the seller and credit the buyer

365-day method choices:

a. Credit the buyer $600.32 and debit the seller the same amount.
b. Debit the buyer $600.32 and credit the seller the same amount.
c. Debit the buyer $272.88 and credit the seller the same amount.
d. Credit the buyer $272.88 and debit the seller the same amount.

Correct Answer: D - The seller owes for 5 months and 15 days = January 31 days, February 28 days, March 31 days, April 30 days, May 31 days, and 15 days in June = 166 days. The taxes were $600 a year divided by 365 days = 1.64 a day X 166 = $272.88 debit the seller and credit the buyer.

Let's move on now to question #8.

Question #8

The taxes for the year 2010 were $1,485, and they WERE PAID IN FULL by the seller. Closing took place on October 15, 2010. The seller is responsible for the day of closing. How much is the tax proration, and how would it appear on the settlement statement?

360-day method choices:

a. Debit the seller; credit the buyer $1,175.62.
b. Credit the seller; debit the buyer $1,175.62.
c. Credit the seller and debit the buyer $309.38.
d. Debit the seller and credit the buyer $309.38.

365-day method choices:

a. Debit the seller; credit the buyer $1,171.73.
b. Credit the seller; debit the buyer $1,171.73.
c. Credit the seller and debit the buyer $313.27.
d. Debit the seller and credit the buyer $313.27.

Question #8 - *Solution*

The taxes for the year 2010 were $1,485, and they WERE PAID IN FULL by the seller. Closing took place on October 15, 2010. The seller is responsible for the day of closing. How much is the tax proration, and how would it appear on the settlement statement?

The seller has paid the taxes in full for the year in this problem. So you need to credit the seller for the time paid for, but not used. The seller is responsible for the day of closing, and therefore does not receive credit for that day.

360-day method choices:

a. Debit the seller; credit the buyer $1,175.62.
b. Credit the seller; debit the buyer $1,175.62.
c. Credit the seller and debit the buyer $309.38.
d. Debit the seller and credit the buyer $309.38.

Correct Answer: C - The closing took place on October 15; so the seller needs to be credited and the buyer needs to be debited for from October 15 to December 30, or 75 days. The taxes were $1,485 a year divided by 360 days = $4.13 a day X 75 days = $309.38 credit the seller and debit the buyer.

365-day method choices:

a. Debit the seller; credit the buyer $1,171.73.
b. Credit the seller; debit the buyer $1,171.73.
c. Credit the seller and debit the buyer $313.27.
d. Debit the seller and credit the buyer $313.27.

Correct Answer: C - The closing took place on October 15; so the seller needs to be credited and the buyer needs to be debited for October - 16 days, November - 30 days, and December - 31 days = 77 days. The taxes were $1,485 a year divided by 365 days = $4.07 a day X 77 days = $313.27. Credit the seller and debit the buyer.

Section IV - Financing

The primary mathematical functions that will need to be performed in the financing section include calculating interest, determining interest and principal paid in a mortgage payment, and then determining the new loan balance. Remember that interest rates are expressed in annual rates. Use the "T" to remember the formula for determining the interest on a loan.

INTEREST	
LOAN AMOUNT $	INTEREST RATE %

For example: Each year you pay $12,000 in interest on your loan at 7.5% interest. Your loan amount is?

Step 1: Draw the appropriate "T".
Step 2: Determine what answer you are seeking.
Step 3: Fill in the information that you were given in the problem.
Step 4: Solve the problem using arithmetic. Be sure to watch your decimal places.

Make sure you answer what is being asked. *Question*: $12,000/7.5% = $160,000 loan.

12,000	
LOAN AMOUNT $	7.5%

Question #1

If you owe $12,000 on a loan and you pay $1,020 interest, your interest rate is?

Remember: You must divide the interest by the amount of the loan to get the correct answer. If you use the % key in your calculator for this problem, and almost every problem, you will not have to convert from decimals to percentages. For example, $1,020 divided by $12,000 and hit your % key. You will get the answer to the problem. (BTW, some calculators you also have to hit the = key after the % key.)

a. .85%
b. .085%
c. 8.5%
d. 13%

Can you figure this out on your own?

Question #1 - *Solution*

If you owe $12,000 on a loan and you pay $1,020 interest, your interest rate is?

Remember: You must divide the interest by the amount of the loan to get the correct answer. If you use the % key in your calculator for this problem, and almost every problem, you will not have to convert from decimals to percentages. For example, $1,020 divided by $12,000 and hit your % key. You will get the answer to the problem. (BTW, some calculators you also have to hit the = key after the % key.)

a. .85%
b. .085%
c. 8.5%
d. 13%

Correct Answer: C - Divide the interest by the amount of the loan. $1,020 divided by $12,000 (Use your % key) = 8.5% interest rate.

Let's go ahead to the following page for sample problem #2.

Question #2

If the interest on a loan at 9% for 8 months was $5,400, then what was the amount of the loan?

In this type of problem you must first establish how much the interest is a year. Then divide that amount by the interest rate to find the loan amount.

a. $67,500
b. $72,900
c. $81,000
d. $90,000

Solve this on your own before proceeding to the next page.

Question #2 - *Solution*

If the interest on a loan at 9% for 8 months was $5,400, then what was the amount of the loan?

In this type of problem you must first establish how much the interest is a year. Then divide that amount by the interest rate to find the loan amount.

a. $67,500
b. $72,900
c. $81,000
d. $90,000

Correct Answer: D - Establish the amount of interest paid a year first.

Step 1 - $5,400 divided by 8 months $675 a month X 12 = $8,100 a year.

Step 2 - $8,100 divided by 9% = $90,000 loan amount.

Question #3

The interest on Elvis' loan was $675 per month at an interest rate of 10-1/2%. If the loan amount was 80% of the value of the home, how much is Graceland worth?

Remember: You must first establish the annual interest and then divide by the interest rate. Watch out for the detractor in this question! The question is asking you for the total value, not just the loan amount; so be sure to finish the problem!

a. $77,143
b. $96,429
c. $110,642
d. $115,839

Can you solve this problem without peeking ahead to the next page? Go ahead; give it a try!

Question #3 - *Solution*

The interest on Elvis' loan was $675 per month at an interest rate of 10-1/2%. If the loan amount was 80% of the value of the home, how much is Graceland worth?

Remember: You must first establish the annual interest and then divide by the interest rate. Watch out for the detractor in this question! The question is asking you for the total value, not just the loan amount; so be sure to finish the problem!

a. $77,143
b. $96,429
c. $110,642
d. $115,839

Correct Answer: B - Again establish the annual interest first.

Step 1 - $675 month X 12 =$8,100 interest a year.

Step 2 - $8,100 divided by 10.5% = $77,142.86 loan amount.

Step 3 - $77,142.86 divided by 80% = $96,428.57 or $96,429 value of Graceland.

Let’s go forward to the following page for our fourth sample question.

Question #4

A purchaser financed a property with a five-year straight note (which means interest only) at 7% interest. She has paid $17,836 of interest over the last two years. The property was financed at 70% of its market value. What was the market value of the property?

Remember: All loans are figured with annual (one year) interest, so first find out how much interest was paid per year. Then divide by the interest rate to find the original loan amount. But be careful again because you must take the extra step to find the market value of the property.

a. $112,000
b. $127,400
c. $182,000
d. $128,000

Question #4 - *Solution*

A purchaser financed a property with a five-year straight note (which means interest only) at 7% interest. She has paid $17,836 of interest over the last two years. The property was financed at 70% of its market value. What was the market value of the property?

Remember: All loans are figured with annual (one year) interest, so first find out how much interest was paid per year. Then divide by the interest rate to find the original loan amount. But be careful again because you must take the extra step to find the market value of the property.

a. $112,000
b. $127,400
c. $182,000
d. $128,000

Correct Answer: C - Remember that a straight loan is an interest only loan wherein the principal is paid at the end as a balloon payment.

Step 1 – Interest must always be figured on an annual basis; so you must take the interest given in this problem for two years and divide by two. ($17,836 divided by 2 = $8,918 interest a year)

Step 2 – Divide the annual interest by the interest rate. ($8,918 divided by 7% =$127,400 which is the loan amount)

Step 3 – Divide the loan amount by the % difference given between the loan and the market value. $127,400 divided by 70% =$182,000 market value.

On the next page, we will read the fifth sample problem in this set.

Question #5

A seller was paying $562 a month interest on a $125,000 straight loan. What was his interest rate?

Don't forget to find the annual interest first and then divide it by the amount of the straight (interest only) loan to find the interest rate. (You could use the % key in the calculator here.)

a. 4.2%
b. 5.4%
c. 6.1%
d. 8.0%

Question #5 - *Solution*

A seller was paying $562 a month interest on a $125,000 straight loan. What was his interest rate?

Don't forget to find the annual interest first and then divide it by the amount of the straight (interest only) loan to find the interest rate. (You could use the % key in the calculator here.)

a. 4.2%
b. 5.4%
c. 6.1%
d. 8.0%

Correct Answer: B

Step 1 – Determine the annual interest paid. ($562 interest a month X 12 = $6,744 interest a year)

Step 2 – Place the $6,744 on the top of a T, and divide by the amount of the straight loan. ($6,744 divided by $125,000 = 5.4%)

BTW, it you use your % key when dividing the interest by the loan amount, you will get the answer of 5.4% without having to change a decimal to a %.

On the following page, you'll work to solve your sixth sample problem in this set.

Question #6

How would the seller's loan payoff appear on the settlement statement?

You shouldn't have a problem with this one! But what if it said the buyer was assuming the seller's loan and how would that appear on a full settlement statement? Answer: Debit the seller and credit the buyer.

a. As a credit to the seller
b. As a debit to the seller
c. As a credit to the seller and a debit to the buyer
d. As a debit to the buyer

Question #6 - *Solution*

How would the seller's loan payoff appear on the settlement statement?

You shouldn't have a problem with this one! But what if it said the buyer was assuming the seller's loan and how would that appear on a full settlement statement? Answer: Debit the seller and credit the buyer.

a. As a credit to the seller
b. As a debit to the seller
c. As a credit to the seller and a debit to the buyer
d. As a debit to the buyer

Correct Answer B - Debit the seller. If the loan is assumed than the same amount is also a credit to the buyer.

Question #7

Rich and Merle purchase a property for $275,000. They obtain a new 75% loan from the ABC Lending Company. How much was their loan and how would it appear on their settlement statement?

a. $206,250 - Credit the buyer.
b. $206,250 - Debit the buyer.
c. $206,250 - Debit the buyer and credit the seller.
d. $206,250 - Credit the buyer and debit the seller.

Can you solve this before seeing our answer? Give it a try, and then move on to read the next page.

Question #7 - *Solution*

Rich and Merle purchase a property for $275,000. They obtain a new 75% loan from the ABC Lending Company. How much was their loan and how would it appear on their settlement statement?

a. **$206,250 - Credit the buyer.**
b. $206,250 - Debit the buyer.
c. $206,250 - Debit the buyer and credit the seller.
d. $206,250 - Credit the buyer and debit the seller.

Correct Answer: A - Using a T formula, the sale price goes on the left side, and the 75% on the right side. Side by side, remember that you must multiply; $275,000 X 75% =$206,250 loan amount which is a credit to the buyer because the lender is bringing that money to the closing table for the buyer to pay off over the term of the loan.

Section V - Interest Due at Closing

If the seller has a loan, it must be paid off at closing. For example, if the seller owes $50,000 on a loan on June 1, and the closing takes place on June 30, the loan balance remains the same for the entire month of June because principal and interest on a mortgage are paid in arrears.

This means that on the first of July the seller will make a payment, which will include the interest and principal payment for the month of June. So if a closing took place on June 30 and the interest on the loan was 7%. The seller would owe the bank $50,000 plus one month's interest:

360-day method:

$50,000 X 7% = $3,500 a year/12 = $291.67 debit to the seller.

365-day method:

$50,000 X 7% = $3,500 a year/365 days in a year = $9.59 a day X 30 days in June = $287.67 debit to the seller.

Watch out for a question that says, "The closing took place on June 15, but the lender demanded interest through the month of settlement." In this case you would still charge the seller for 30 days. Essentially, the seller must always pay the mortgage balance and interest BACK to the first of the month. This would be a DEBIT to the seller only.

If the buyer assumes the loan then both the loan and the interest would be a debit to the seller and a credit to the buyer. If a buyer gets a new loan, interest must be paid UP TO the end of the month. For example, closing on the 15th, the buyer would owe interest for 16 days (include the day of closing).

We'll look at some sample problems on the following pages.

Question #1

If the seller's loan balance on the day of closing, August 31, was $91,200, at an interest rate of 7%, how much interest did the seller owe the bank and how did it appear on the settlement statement?

Multiply the loan balance by the interest rate and use your % key to find the annual interest. The seller owes for one month's interest.

360-day method choices:

a. $532 - Debit the seller.
b. $2,964 - Debit the seller.
c. $6,384 - Credit the seller.
d. You can't tell unless you know the monthly payment and the term of the loan.

365-day method choices:

a. $542 – Debit the seller.
b. $2,964 – Debit the seller.
c. $6,384 – Credit the seller.
d. You can't tell unless you know the monthly payment and the term of the loan.

Can you figure out the answer to this question? Try it yourself and then move on to the following page.

Question #1 - *Solution*

If the seller's loan balance on the day of closing, August 31, was $91,200, at an interest rate of 7%, how much interest did the seller owe the bank and how did it appear on the settlement statement?

Multiply the loan balance by the interest rate and use your % key to find the annual interest. The seller owes for one month's interest.

360-day method:

a. **$532 - Debit the seller.**
b. $2,964 - Debit the seller.
c. $6,384 - Credit the seller.
d. You can't tell unless you know the monthly payment and the term of the loan.

Correct Answer: A

- Step 1: Remember that interest is paid in arrears. The seller owes the bank for 30 days' interest payable at closing.
- Step 2: $91,200 X 7% = $6,384 interest a year.
- Step 3: Divide $6,384 by 12 = $532 interest for the month of August, which is a debit to the seller at closing.

365-day method:

a. **$542 – Debit the seller.**
b. $2,964 – Debit the seller.
c. $6,384 – Credit the seller.
d. You can't tell unless you know the monthly payment and the term of the loan.

Correct Answer: A

- Step 1: Remember that interest is paid in arrears. The seller owes the bank for 31 days interest payable at closing.
- Step 2: $91,200 X 7% = $6,384 interest a year.
- Step 3: Without clearing your calculator divide $6,384 by 365 days in a year = $17.49 a day X 31 days = $542.20 interest (rounded off to $542) for 31 days in the month of August, which is a debit to the seller at closing.

Question #2

A seller had a loan balance plus interest due to the bank at closing, after the August 1, 2010, payment, in the amount of $56,818. The interest rate was 12% and the bank insisted on being paid interest through the month of settlement. The closing took place on August 28, 2010. How much is the accrued interest payable at closing?

Since the bank is "demanding interest through the month of settlement," work this problem the same way you did problem #1. The seller owes one month's interest to the bank. Watch out for a question like this that asks you, "How much does the seller owe the bank?" The answer would be the loan balance plus interest.

360-day method choices:

a. $530.38
b. $558.62
c. $568.18
d. $711.41

365-day method choices:

a. $530.38
b. $558.62
c. $579.06
d. $711.41

Question #2 - *Solution*

A seller had a loan balance plus interest due to the bank at closing, after the August 1, 2010, payment, in the amount of $56,818. The interest rate was 12% and the bank insisted on being paid interest through the month of settlement. The closing took place on August 28, 2010. How much is the accrued interest payable at closing?

Since the bank is "demanding interest through the month of settlement," work this problem the same way you did problem #1. The seller owes one month's interest to the bank. Watch out for a question like this that asks you, "How much does the seller owe the bank?" The answer would be the loan balance plus interest.

360-day method:

a. $530.38
b. $558.62
c. $568.18
d. $711.41

Correct Answer: C - $56,818 X 12% = $6,818.16 a year divided by 12 = $568.18. The lender has demanded interest through the month of settlement, which means the seller must pay for 30 days.

365-day method:

a. $530.38
b. $558.62
c. $579.06
d. $711.41

Correct Answer: C - $56,818.00 X 12% = $6,818.16 a year divided by 365 days in a year = $18.68 a day (remember not to clear your calculator). August has 31 days, so $18.68 X 31 days = $579.06. The lender has demanded interest through the month of settlement, which means the seller must pay for 31 days.

Question #3

If the seller's loan balance was $145,600 on July 1, and the closing took place on July 31, what was the seller's loan balance the day of closing, and how did it appear on the settlement statement?

Remember: Loan balances do not change the entire month. The loan balance only changes when another payment is made the 1st of the next month because principal and interest are paid in arrears.

a. $145,000 - Debit the seller.
b. $145,200 - Credit the seller.
c. $145,300 - Credit the seller.
d. $145,600 - Debit the seller.

Question #3

If the seller's loan balance was $145,600 on July 1, 2010 and the closing took place on July 31, 2010, what was the seller's loan balance the day of closing, and how did it appear on the settlement statement?

Remember: Loan balances do not change the entire month. The loan balance only changes when another payment is made the 1st of the next month because principal and interest are paid in arrears.

a. $145,000 - Debit the seller.
b. $145,200 - Credit the seller.
c. $145,300 - Credit the seller.
d. $145,600 - Debit the seller.

Correct Answer: D - If the loan balance on the 1st of the month was $145,600, then the loan balance stays the same until another payment is made, which would be on August 1! The seller sold the property, and closed on July 31; so the loan balance owed at closing is $145,600, and it is a debit to the seller.

Question #4

The loan balance on a property after the November 1 payment was $90,000. The closing took place on November 25. What was the loan balance on the day of closing?

When the payment was made on November 1, it reduced the loan to $90,000. What was the loan balance on November 2? November 10? On closing? Same as the previous question!

a. $25,200
b. $45,600
c. $65,980
d. $90,000

Let's go on to the following page to find out the answer to this question.

Question #4 - *Solution*

The loan balance on a property after the November 1 payment was $90,000. The closing took place on November 25. What was the loan balance on the day of closing?

When the payment was made on November 1, it reduced the loan to $90,000. What was the loan balance on November 2? November 10? On closing? Same as the previous question!

a. $25,200
b. $45,600
c. $65,980
d. $90,000

Correct Answer: D - Once again, remember that whatever the loan balance is on the first of the month, it remains the same for the entire month. So the payoff for the seller in this question is $90,000.

Let's move on to the following page for the fifth question.

Question #5

Mrs. Jones bought a house for $147,000 and deposited $12,700 earnest money with the listing broker. She got a 90% loan. If she has to pay 1% in attorney's fees based on the sale price, receives a credit of $400 for taxes, and the bank charges 4 points on the loan amount, how much should she take to closing?

Just add up the debits and credits and figure out what the buyer must bring to closing! Points are paid on the loan amount. One point = 1%, 2 points = 2%, and so on. So this problem calls for 4% times (X) the loan amount to be charged to the buyer.

a. $8,362
b. $5,292
c. $12,700
d. $8,762

Question #5 - *Solution*

Mrs. Jones bought a house for $147,000 and deposited $12,700 earnest money with the listing broker. She got a 90% loan. If she has to pay 1% in attorney's fees based on the sale price, receives a credit of $400 for taxes, and the bank charges 4 points on the loan amount, how much should she take to closing?

Add up the debits and credits and figure out what the buyer must bring to closing. Points are paid on the loan amount. One point = 1%, 2 points = 2% and so on. So this problem calls for 4% X the loan amount to be charged to the buyer.

a. $8,362
b. $5,292
c. $12,700
d. $8,762

Correct Answer: A

- Step 1 - The sale price is a debit to the buyer of $147,000.
- Step 2 –The earnest money is a credit to the buyer of $12,700.
- Step 3 –The loan amount is established by multiplying the sale price X the percent of the loan, which is a credit to the buyer. ($147,000 X 90% = $132,300)
- Step 4 –Attorney fees for the test are always figured on the sale price, and they are a debit to whoever agreed to pay the fee. ($147,000 X 1% = $1,470)
- Step 5 –The taxes are a $400 credit to the buyer.
- Step 6 –Points are paid on the loan amount, and they are a debit to the buyer. ($132,300 X 4%= $5,292)
- Step 7 – Add up all the credits - $12,700 earnest money, $132,300 loan amount, taxes of $400 = $145,400.
- Step 8 –Add up all the debits - $147,000 sale price, Attorney fees $1,470, Points $5,292 =$153,762.
- Step 9 – Subtract the credits from the debits - $153,762 - $145,400 = $8,362 Mrs. Jones has to take to closing.

Question #6

The seller's loan balance after the June 1 payment was $78,550.25, with monthly payments of $752.50 principal and interest due the first of the month, at an interest rate of 7.75%. The property was sold, and the closing took place on August 20. What was the loan balance on the day of closing?

You need to reduce the principal by TWO payments. Multiply the loan balance by the interest rate and you will get the annual interest. Now divide by 12 and obtain the monthly interest. Take that amount away from the total (principal and interest) payment. Now you know how much the loan (principal) was reduced when the payment was made on July 1. Now do the same thing again to find the loan balance after the August 1st payment, which will be the same at closing.

360-day method choices:

a. $78,058.27
b. $78,305.05
c. $75,042.95
d. $74,558.30

365-day method choices:

a. $78,060.97
b. $78,305.05
c. $75,042.95
d. $74,558.30

Can you solve this before going ahead to the next page?

Question #6 - *Solution*

The seller's loan balance after the June 1 payment was $78,550.25, with monthly payments of $752.50 principal and interest due the first of the month, at an interest rate of 7.75%. The property was sold, and the closing took place on August 20. What was the loan balance on the day of closing?

You need to reduce the principal by TWO payments. Multiply the loan balance by the interest rate and you will get the annual interest. Now divide by 12 and obtain the monthly interest. Take that amount away from the total (principal and interest) payment. Now you know how much the loan (principal) was reduced when the payment was made on July 1. Now do the same thing again to find the loan balance after the August 1st payment, which will be the same at closing.

360-day method choices:

a. **$78,058.27**
b. $78,305.05
c. $75,042.95
d. $74,558.30

Correct Answer: A - The loan must be reduced by 2 months of principal only.

- Step 1 - $78,550.25 X 7.75% =$6,087.64 interest a year divided by 12 months =$507.30 interest for the month of June in arrears.
- Step 2 - $752.50 Principal and interest payment due minus $507.30 interest = $245.20 principal paid on July 1st in arrears for June.
- Step 3 - $78,550.25 loan balance minus $245.20 =$78,305.05 principal balance on July 1, and thru the month of July.
- Step 4 - Repeat the same process to reduce the principal by another month using the new loan balance just established. $78,305.05 X 7.75% = $6068.64 interest a year divided by 12 =$505.72 interest paid in arrears for July. (Note that the interest amount due has gone down, which means that the principal amount will go up.)
- Step 5 - $752.50 minus $505.72 interest =$246.78 principal
- Step 6 - $78,305.05 minus $246.78 = $78,058.27 loan balance on August 1 and for the entire month of August.

365-day method calculation is on the next page.

365-day method choices:

a. **$78,060.97**
b. $78,305.05
c. $75,042.95
d. $74,558.30

Correct Answer: A - The loan must be reduced by 2 months of principal only.

- Step 1 - $78,550.25 X 7.75% =$6,087.64 interest a year divided by 365 days = $16.68 a day X 30 days in June =$500.35 interest for the month of June in arrears.
- Step 2 - $752.50 Principal and interest payment due minus $500.35 interest = $252.15 principal paid on July 1 in arrears for June.
- Step 3 - $78,550.25 loan balance minus $252.15 =$78,298.10 principal balance on July 1, and through the month of July.
- Step 4 – Repeat the same process to reduce the principal by another month using the new loan balance just established. $78,298.10 X 7.75% = $6,068.10 interest a year divided by 365 days in a year = $16.62 interest a day X 31 days in July = $515.37 paid in arrears for July. (Note that the interest amount due has gone down, which means that the principal amount will go up.)
- Step 5 - $752.50 minus $515.37 interest =$237.13 principal
- Step 6 - $78,298.10 minus $237.13 = $78,060.97 loan balance on August 1 and for the entire month of August.

Question #7

The seller's loan balance after the September 1 payment was $167,289.32, with monthly payments of $1,692.25 principal and interest due the first of each month, at an interest rate of 8.25%. The property sold, and the closing took place on November 14. What was the loan balance on the day of closing?

This problem is done the same way as the previous problem.

360-day method choices:

a. $135,597.07
b. $133,904.82
c. $166,747.18
d. $166,201.32

365-day method choices:

a. $135,597.07
b. $133,904.82
c. $166,747.18
d. $166,207.44

Try to figure out this problem on your own, and then proceed to the following page for the answer.

Question #7 - *Solution*

The seller's loan balance after the September 1 payment was $167,289.32, with monthly payments of $1,692.25 principal and interest due the first of each month, at an interest rate of 8.25%. The property sold, and the closing took place on November 14. What was the loan balance on the day of closing?

This problem is done the same way as the previous problem.

360-day method:

a. $135,597.07
b. $133,904.82
c. $166,747.18
d. $166,201.32

Correct Answer: D - Again the loan must be reduced by 2 months of principal only.

- Step 1 - $167,289.32 X 8.25% =$13,801.37 interest a year divided by 12 months =$1,150.11 interest for the month of September in arrears.
- Step 2 - $1,692.25 Principal and interest payment due minus $1,150.11 interest = $542.14 principal paid on September 1st in arrears for August.
- Step 3 - $167,289.32 loan balance minus $542.14 =$166,747.18 principal balance on October 1, and thru the month of October.
- Step 4 - Repeat the same process to reduce the principal by another month using the new loan balance just established. $166,747.18 X 8.25% = $13,756.64 interest a year divided by 12 =$1,146.39 interest paid in arrears for October. (Note that the interest amount due has gone down, which means that the principal amount will go up.)
- Step 5 - $1,692.25 minus $1,146.39 interest =$545.86 principal
- Step 6 - $166,747.18 loan balance minus $545.86 = $166,201.32 principal balance on November 1 and for the entire month of November.

365-day method calculation is on the next page.

365-day method:

a. $135,597.07
b. $133,904.82
c. $166,731.43
d. $166,207.44

Correct Answer: D - Again the loan must be reduced by 2 months of principal only.

- Step 1 - $167,289.32 X 8.25% =$13,801.37 interest a year divided by 365 days a year = $37.81 a day X 30 days in September = $1,134.36 interest for the month of September in arrears.
- Step 2 - $1,692.25 Principal and interest payment due minus $1,134.36 interest = $557.89 principal paid on October 1 in arrears for September.
- Step 3 - $167,289.32 loan balance minus $557.89 = $166,731.43 principal balance on October 1, and thru the month of October.
- Step 4 – Repeat the same process to reduce the principal by another month using the new loan balance just established. $166,731.43 X 8.25% = $13,755.34 interest a year divided by 365 days in a year = $37.69 a day X 31 days = $1,168.26 interest paid in arrears for October. (Note that the interest amount due has gone down, which means that the principal amount will go up.)
- Step 5 - $1,692.25 minus $1,168.26 interest =$523.99 principal.
- Step 6 - $166,731.43 loan balance minus $523.99 = $166,207.44 principal balance on November 1 and for the entire month of November.

Let’s move onto a new topic on the following pages.

Section VI - Prepayment Penalty

A prepayment penalty is charged to a seller who is paying a loan off at closing prior to the maturity date (30 years).

For example, the seller has owned a property for 20 years and owes the lender $50,000 on the day of closing. The lender is charging a 1% prepayment penalty: $50,000 X 1% = $500. Debit the seller only. The buyer would not be involved in this charge.

If the buyer assumes a loan, many times there will be an assumption fee. For example, the seller owes $50,000 and the buyer will assume the loan. The lender charges a 1% assumption fee. For example, $50,000 X 1% = $500. Debit the buyer. The seller would not be involved in this charge.

Okay, you know the drill by now; so we'll tackle our first sample question on the following page.

Question #1

If the seller's bank received the principal balance due of $56,818, interest of $568.18 and a 1% prepayment penalty at closing, what was the total amount received by the seller's bank?

Just add up all the charges!

a. $56,818
b. $57,386.10
c. $57,954.36
d. $57,348

Try to figure out this question before going on to the following page.

Question #1 - *Solution*

If the seller's bank received the principal balance due of $56,818, interest of $568.18 and a 1% prepayment penalty at closing, what was the total amount received by the seller's bank?

Just add up all the charges!

a. $56,818
b. $57,386.10
c. $57,954.36
d. $57,348

Correct Answer: C

Step 1 – Add up the principal balance and the interest amount that is due at closing. ($56,818 + $568.18 = $57,386.18

Step 2 – The seller also owes a 1% prepayment penalty on the loan amount. ($56,818 X 1% = $568.18 the amount of the prepayment penalty.

Step 3 – Added together, the seller owes $57,954.36 to the lender at closing.

The next question is on the following page.

Question #2

The sale price on a property was $1,000,000. The seller's loan balance on the day of closing was $853,502.50. The seller's lender is charging a 2% prepayment penalty. How much does the seller owe the bank for the prepayment penalty?

Remember: Prepayment penalties are always paid on the loan balance the day of closing.

a. $20,000
b. $17,070.05
c. $15,000.70
d. $12,000.50

Remember to attempt to solve this on your own before going on to the next page.

Question #2 - *Solution*

The sale price on a property was $1,000,000. The seller's loan balance on the day of closing was $853,502.50. The seller's lender is charging a 2% prepayment penalty. How much does the seller owe the bank for the prepayment penalty?

Remember: Prepayment penalties are always paid on the loan balance the day of closing.

a. $20,000
b. $17,070.05
c. $15,000.70
d. $12,000.50

Correct Answer: B

Step 1 – The sale price is a detractor in this question.

Step 2 – The loan amount X the percentage of the prepayment penalty will yield the amount owed at closing. ($853,502.50 X 2% = 17,070.05)

Question #3

The sale price on a property was $175,000. The seller's loan balance after the September 1 payment was $80,575. The monthly payment on the loan has been $750 principal and interest for the past 12 years. The interest rate on the loan is 8.5%. The property has been sold and the closing will occur on September 15. The seller's bank is demanding to be paid interest through the month of settlement, and a 1% prepayment penalty. How much will the seller owe the bank at closing?

Take a piece of scratch paper and prepare debit and credit columns. The problem is giving you most of the necessary numbers. In fact, there are numbers that you don't need! Watch out for "Interest through the month of settlement."

360-day method choices:

a. $80,575
b. $81,325.05
c. $81,951.49
d. $83,000.42

365-day method choices:

a. $80,575
b. $81,137.92
c. $81,943.67
d. $83,000.42

Try to solve this one on your own before moving onto the next page for our answer.

Question #3 - *Solution*

The sale price on a property was $175,000. The seller's loan balance after the September 1 payment was $80,575. The monthly payment on the loan has been $750 principal and interest for the past 12 years. The interest rate on the loan is 8.5%. The property has been sold and the closing will occur on September 15. The seller's bank is demanding to be paid interest through the month of settlement, and a 1% prepayment penalty. How much will the seller owe the bank at closing?

Take a piece of scratch paper and prepare debit and credit columns. The problem is giving you most of the necessary numbers. In fact, there are numbers that you don't need! Watch out for "Interest through the month of settlement."

360-day method:

a. $80,575
b. $81,325.05
c. $81,951.49
d. $83,000.42

Correct Answer: C - Read the last sentence first. The question is asking how much the seller owes the bank at closing.

- Step 1 – The sale price is a credit to the seller.
- Step 2 – The seller's loan balance after the September 1st payment is $80,575. So the loan balance stays the same for the entire month of closing, which is September. Debit to the seller.
- Step 3 – The monthly payment is a detractor and of no use in this problem.
- Step 4 – The bank is demanding interest through the month of closing. $80,575 X 8.5% = $6,848.88 interest a year divided by 12 =$570.74 interest owed for the month of September. Debit the seller.
- Step 5 – A 1% prepayment penalty - $80,575 X 1% = $805.75 – Debit the seller.
- Step 6 – Add up the debits - $80,575 + $570.74 + $805.75 = $81,951.49.

365-day method calculation is on the next page.

365-day method choices:

a. $80,575
b. $81,137.92
c. $81,943.67
d. $83,000.42

Correct Answer: C - Read the last sentence first. The question is asking how much the seller owes the bank at closing.

- Step 1 – The sale price is a credit to the seller.
- Step 2 – The seller's loan balance after the September 1st payment is $80,575. So the loan balance stays the same for the entire month of closing, which is September. Debit to the seller.
- Step 3 – The monthly payment is a detractor and of no use in this problem.
- Step 4 – The bank is demanding interest through the month of closing. $80,575.00 X 8.5% = $6,848.88 interest a year divided by 365 days =$18.76 a day interest X 30 days = $562.92 owed for the month of September. Debit the seller.
- Step 5 – A 1% prepayment penalty - $80,575 X 1% = $805.75 – Debit the seller.
- Step 6 – Add up the debits. $80,575 + $562.92 + $805.75 = $81,943.67 – Answer C

Question #4

The seller's loan balance after the April 1 payment was $96,775.42. The principal and interest payment due on the first of each month was $725.48, at an interest rate of 6.75%. The bank is demanding a 2% prepayment penalty at closing which is set for June 15. How much is the prepayment penalty, and how would it appear on a settlement statement?

This is another good example of why you should always read the last sentence first when doing math problems! Don't forget: The loan balance must be reduced by two months before figuring the prepayment penalty.

360-day method choices:

a. $1,935.51 - Credit the seller.
b. $1,931.89 - Debit the seller.
c. $1,929.49 - Credit the seller.
d. $1,928.24 - Debit the seller.

365-day method choices:

a. $1,935.51 - Credit the seller.
b. $1,931.73 - Debit the seller.
c. $1,929.49 - Credit the seller.
d. $1,928.30 - Debit the seller.

Remember to attempt to solve this on your own first.

Question #4 - *Solution*

The seller's loan balance after the April 1st payment was $96,775.42. The principal and interest payment due on the first of each month was $725.48, at an interest rate of 6.75%. The bank is demanding a 2% prepayment penalty at closing which is set for June 15. How much is the prepayment penalty, and how would it appear on a settlement statement?

360-day method:

a. $1,935.51 - Credit the seller.
b. $1,931.89 - Debit the seller.
c. $1,929.49 - Credit the seller.
d. $1,928.24 - Debit the seller.

Correct Answer: D - This is another good example of why you should always read the last sentence first when doing math problems! Don't forget: The loan balance must be reduced by two months before figuring the prepayment penalty. Be sure to read the last sentence first to determine that you are only concerned in this question with the prepayment penalty.

- Step 1 - $96,775.42 X6.75% =$6,532.34 a year divided by 12 = $544.36 interest paid on May 1 for April.
- Step 2 - $725.48 principal and interest payment minus $544.36 interest = $181.12 principal reduction paid May 1 in arrears for April.
- Step 3 - $96,775.42 – $181.12 = $96,594.30 principal balance on May 1 and for the entire month.
- Step 4 - Now repeat the same process to discover the loan balance on June 1st - $96,594.30 X 6.75% = $6,420.12 divided by 12 = $543.34 interest for the month of May paid on June 1 in arrears.
- Step 5 - $725.48 principal and interest minus $543.34 interest = $182.13 principal reduction paid on June 1 for the month on May.
- Step 6 - $96,594.30 minus $182.13 =$96,412.17 principal balance on June 1st and at closing on June 15.
- Step 7 - $96,412.17 X 2% prepayment penalty = $1,928.24.

365-day method calculation is on the next page.

365-day method choices:

a. $1,935.51 - Credit the seller.
b. $1,931.73 - Debit the seller.
c. $1,929.49 - Credit the seller.
d. $1,928.30 - Debit the seller.

Correct Answer: D - Again, be sure to read the last sentence first to determine that you are only concerned in this question with the prepayment penalty. However, you must figure out the loan balance after the June 1st payment.

- Step 1 - $96,775.42 X6.75% =$6,532.34 a year divided by 365 = $17.90 a day X 30 days = $536.90 interest paid on May 1 for April.
- Step 2 - $725.48 principal and interest payment minus $544.36 interest = $188.58 principal reduction paid May 1 in arrears for April.
- Step 3 - $96,775.42 – $188.58 = $96,586.84 principal balance on May 1 and for the entire month.
- Step 4 – Now repeat the same process to discover the loan balance on June 1. $96,586.84 X 6.75% = $6,519.61 divided by 365 days = $17.86 a day X 31 days = $553.72 interest for the month of May paid on June 1 in arrears.
- Step 5 - $725.48 principal and interest minus $553.72 interest = $171.76 principal reduction paid on June 1 for the month on May.
- Step 6 – $96,586.84 minus $171.76 =$96,415.08 principal balance on June 1 and at closing on June 15.
- Step 7 - $96,415.08 X 2% prepayment penalty = $1,928.30.

Section VII - Seller's Net

The following steps are recommended to complete "Seller net" questions:

- Using the "T" formula, the amount the seller wants to net goes on top.
- The sale price goes on the left side.
- The percentage goes on the right side, but you must subtract the amount of commission from 100% and then divide.

Example: The seller wants to net $75,000 after paying the mortgage balance of $10,000, $500 closing costs, receiving a refund of $400, and paying a 7% commission. What would the property have to sell for to net the seller $75,000? Anytime you see the words "Seller Net" or "After Paying a commission," here are the recommended steps to complete this type of problem:

- **Step 1:** Add the mortgage balance and the expenses to the amount, the seller wants to net ($75,000 + $10,000 + $500 = $85,500).
- **Step 2:** Now subtract the refund the seller will receive ($85,500 - $400 = $85,100).
- **Step 3:** Now divide the $85,100, which you put at the top of the T-formula, by the difference between 100% and 7% (100-7=93%). So $85,100 / 93% = $91,505.38, which is what the property has to sell for to net the seller $75,000.

If you work the problem backwards, you will have a better picture of how this works:

- **Step 1:** $91,505.38 X 93% =$85,100
- **Step 2:** Add the refund of $400 + $85,100 = $85,500.
- **Step 3:** Subtract the expenses of $500 + the mortgage payment of $10,000 from the $85,500 = $75,000, which is what the seller wants to net.

If the seller had expenses that they paid, they must be given back before dividing by the aggregate of the commission.

If the seller had expenses, and received a refund for something, then you must add back in the expenses, subtract the refund and then divide by the opposite of the commission rate the seller agreed to pay.

Question #1

The sellers told their real estate agent they wanted to net $50,000 after paying a 6% commission. How much did the property have to sell for to net the seller $50,000?

Remember: Divide what the seller wants to net by the aggregate of the commission rate. (100% - 6% = 94%)

a. $50,000
b. $51,500
c. $53,000
d. $53,191.49

If you follow the instructions given in the unit, this problem should be easy for you.

Question #1 - *Solution*

The sellers told their real estate agent they wanted to net $50,000 after paying a 6% commission. How much did the property have to sell for to net the seller $50,000?

Remember: Divide what the seller wants to net by the aggregate of the commission rate. (100%-6%=94%)

a. $50,000
b. $51,500
c. $53,000
d. $53,191.49

Correct Answer: D - If you follow the instructions given in the unit, this problem should be easy for you.

Step 1 – What the seller wants to net ($50,000) goes on the top of the T.

Step 2 – Subtract 6% from 100% to obtain the aggregate of 94%.

Step 3 – Divide $50,000 by 94% = $53,191.49 sale price to net $50,000.

Question #2

The seller wanted to net $150,000 after paying an 8% commission and closing expenses of $1,500. How much does the property have to sell for to net the seller $150,000?

Add the expenses and then divide by the aggregate of the commission.

a. $170,000
b. $163,043.48
c. $164,673.91
d. $138,000

Question #2 - *Solution*

The seller wanted to net $150,000 after paying an 8% commission and closing expenses of $1,500. How much does the property have to sell for to net the seller $150,000?

Add the expenses and then divide by the aggregate of the commission.

a. $170,000
b. $163,043.48
c. $164,673.91
d. $138,000

Correct Answer: C - Always add the expenses and then divide by the aggregate of the commission.

Step 1 - $150,000 + $1,500 = $151,500

Step 2 - 100% minus 8% = 92%

Step 3 - $151,500 divided by 92% =$164,673.91 property must sell for to net $150,000 to the seller.

Question #3

The seller wants to net $275,000 after paying a 10% commission, paying closing costs of $1,800, and receiving a refund for prepaid taxes of $1,200. What would the property have to sell for to net the seller $275,000?

a. $306,222.22
b. $305,500.42
c. $303,200.22
d. $302,500.42

Question #3 - *Solution*

The seller wants to net $275,000 after paying a 10% commission, paying closing costs of $1,800, and receiving a refund for prepaid taxes of $1,200. What would the property have to sell for to net the seller $275,000?

a. **$306,222.22**
b. $305,500.42
c. $303,200.22
d. $302,500.42

Correct Answer: A - If the seller had expenses, and received a refund for something, then you must add back in the expenses, subtract the refund and then divide by the opposite of the commission rate the seller agreed to pay.

Add the expenses, subtract the refund, and then divide by the aggregate of the commission.

Step 1 - $275,000 + $1,800 = $276,800

Step 2 - $276,800 - $1,200 = $275,600

Step 3 - 100% - 10% = 90% the aggregate of the commission

Step 4 - $275,600 divided by 90% = $306,222.22 sale price to net the seller $275,000.

Let's take a look at question #4 on the next page.

Question #4

The seller told his real estate agent to list his house for $175,000 and that he wanted to net $162,750. If the property sold for that price, and there were no additional expenses, to what did the seller agree?

Watch out for a question like this. Remember: This is a math problem!

a. A net listing, which is illegal
b. A 7% commission
c. A bad deal
d. Can't tell without more information

Try to figure this out on your own before going on to the next page.

Question #4 - *Solution*

The seller told his real estate agent to list his house for $175,000 and that he wanted to net $162,750. If the property sold for that price, and there were no additional expenses, to what did the seller agree?

Watch out for a question like this. Remember this is a math problem!

a. A net listing, which is illegal
b. A 7% commission
c. A bad deal
d. Can't tell without more information

Correct Answer: B - This is a math problem. It is not a net listing because the seller has indicated what he/she wants to earn for the sale of the property.

Step 1 – Place the small number on the top of a T, and the list price on the lower left side. Divide the $162,750 by $175,000, hit your % key and you will get 93%.

Step 2 – 93% is the aggregate of the commission so 100% - 93% = 7% which is what the seller agreed to in this problem.

Section VIII - Buyer's New Loan

If a buyer takes out a new loan, the amount of the loan is a credit on the settlement statement. It is a credit because the buyer does not have to bring the amount of the loan to the closing. However, if the closing takes place during the month, the buyer must pay interest forward to the end of the month. (Remember: The seller had to pay interest back to the first of the month on the loan being paid off.)

For example, the buyer purchases a property for $100,000, obtains an 80% loan at 7% interest. The closing took place on the 15th of the month. How would the loan and the PREPAID INTEREST be displayed on the settlement statement?

360-day method:

$100,000 X 80% = $80,000 credit the buyer. Then $80,000 X 7% = $5,600 a year/360 (assuming a 30 day month = 15.56 a day X 16 days= $248.89 debit the buyer.

365-day method:

$100,000 X 80% = $80,000 credit the buyer. Then $80,000 X 7% = $5,600 a year/365 = $15.34 a day X 16 days= $245.48 debit the buyer.

Now if this closing took place in July, the buyer would be charged for 17 days because there are 31 days in July. Don't forget that there are 365 days in a year, and each month has to be figured for the amount of days actually in that particular month.

Let's look at some sample problems on the following pages.

Question #1

The purchase price on a property was $172,500. If the buyer acquired an 80% loan-to-value ratio mortgage, what is the buyer's new first mortgage amount?

By now, this should be an easy question. The purchase price times (X) 80% will give you the answer.

a. $156,000
b. $156,818
c. $138,000
d. $160,000

Remember to try to solve the question before going on to the following page.

Question #1 - *Solution*

The purchase price on a property was $172,500. If the buyer acquired an 80% loan-to-value ratio mortgage, what is the buyer's new first mortgage amount?

By now, this should be an easy question. The purchase price times (X) 80% will give you the answer.

a. $156,000
b. $156,818
c. $138,000
d. $160,000

Correct Answer: C - You are trying to determine the buyer's new loan amount.

Step 1 - $172,500 X 80% = $138,000 loan amount.

Question #2

The purchase price on a property was $150,000, and the buyer received a 90% loan at an interest rate of 7%. Closing took place on January 15. How much was the buyer's new loan and how many days does the buyer owe the bank at closing for interest?

Figure out the loan balance. How many days' interest does the buyer owe the bank for at closing? Remember: This is the BUYER'S new loan, and the bank wants to be paid for the day of closing.

360-day method choices:

a. $150,000 + 15 days
b. $140,000 + 16 days
c. $135,000 + 16 days
d. $130,000 + 15 days

365-day method choices:

a. $150,000 + 15 days
b. $140,000 + 16 days
c. $135,000 + 17 days
d. $130,000 + 15 days

Question #2 - *Solution*

The purchase price on a property was $150,000, and the buyer received a 90% loan at an interest rate of 7%. Closing took place on January 15. How much was the buyer's new loan and how many days does the buyer owe the bank at closing for interest?

Figure out the loan balance. How many days' interest does the buyer owe the bank for at closing? Remember: This is the BUYER'S new loan, and the bank wants to be paid for the day of closing.

360-day method:

e. $150,000 + 15 days
f. $140,000 + 16 days
g. $135,000 + 16 days
h. $130,000 + 15 days

Correct Answer: C

Step 1 - $150,000 X 90% = $135,000 loan amount.

Step 2 - The buyer owes from the 15th to the 30th, which is 16 days. (Count the days on your fingers)

365-day method:

e. $150,000 + 15 days
f. $140,000 + 16 days
g. $135,000 + 17 days
h. $130,000 + 15 days

Correct Answer: C

Step 1- $150,000 X 90% = $135,000 loan amount.

Step 2 – The buyer owes from the 15th to the 31st (January has 31 days), which is 17 days. (Count the days on your fingers)

Question #3

A buyer received a loan for $250,000, which was 80% of the sale price. What was the sale price?

Is the $250,000 the big or small number? It is the small number--so it goes on top in the "T" and should be divided by the % to obtain the sale price.

a. $250,000
b. $275,000
c. $300,000
d. $312,500

Remember to try to solve this one by yourself before clicking on to the following page for the correct answer.

Question #3 - *Solution*

A buyer received a loan for $250,000, which was 80% of the sale price. What was the sale price?

Is the $250,000 the big or small number? It is the small number--so it goes on top in the "T" and should be divided by the % to obtain the sale price.

a. $250,000
b. $275,000
c. $300,000
d. $312,500

Correct Answer: D

Step 1 - The loan amount is $250,000, which would be put at the top of a T.

Step 2 - Divide the $250,000 by 80% to determine the sale price of $312,500.

On the next page, you'll have a chance to work on sample #4.

Question #4

A buyer purchased a property for $125,000, and deposited $10,000 earnest money with the listing broker. The buyers received a 75% loan at 8% interest from their bank. The closing took place on July 20. How much was the loan amount, and how much interest did the buyer owe the bank?

There is a number in this problem you don't need! Find the loan amount and figure out how much interest is due from the buyer at closing.

360-day method choices:

a. $83,750 loan + $277.78 interest
b. $93,750 loan + $229.17 interest
c. $103,750 loan + $277.78 interest
d. $113,750 loan + $229.17 interest

365-day method choices:

a. $83,750 loan + $277.78 interest
b. $93,750 loan + $246.58 interest
c. $103,750 loan + $277.78 interest
d. $113,750 loan + $246.58 interest

Try to figure out this Question before going on to the next page.

Question #4 - *Solution*

A buyer purchased a property for $125,000, and deposited $10,000 earnest money with the listing broker. The buyers received a 75% loan at 8% interest from their bank. The closing took place on July 20. How much was the loan amount, and how much interest did the buyer owe the bank?

There is a number in this problem you don't need! Find the loan amount and figure out how much interest is due from the buyer at closing.

360-day method choices:

a. $83,750 loan + $277.78 interest
b. $93,750 loan + $229.17 interest
c. $103,750 loan + $277.78 interest
d. $113,750 loan + $229.17 interest

Correct Answer: B

- Step 1 - Determine the loan amount ($125,000 X 75% = $93,750).
- Step 2 - If you look at the answers there is only one answer that could be correct, but it is best to learn here how to figure out the interest owed. (The buyer owes from the 20th to the 30th or 11 days of interest.)
- Step 3 - $93,750 X 8% = $7,500 interest a year divided by 360 days in a year = $20.83 a day X 11 days = $229.17 interest owed by the buyer at closing.

365-day method choices:

a. $83,750 loan + $277.78 interest
b. $93,750 + $246.58 interest
c. $103,750 + $277.78 interest
d. $113,750 + $246.58 interest

Correct Answer: B

- Step 1 - Determine the loan amount ($125,000 X 75% = $93,750).
- Step 2 - If you look at the answers there is only one answer that could be correct, but it is best to learn here how to figure out the interest owed. (The buyer owes from the 20th to the 31st or 12 days of interest)
- Step 3 - $93,750 X 8% = $7,500 interest a year divided by 365 days in a year = $20.55 a day X 12 days = $246.58 interest owed by the buyer at closing.

Section IX - Loan Origination

Origination Charges: Fees are charged by the lender to obtain the loan. They include and may not be limited to: Processing fees, Underwriting Fees, Shipping Fees, Closing Fees, Verification Fees, and Discount Points.

Discount Points: Points are charged by the lender to compensate for any interest difference in yield required by the lender for the loan and the interest paid by the borrower. For example, if the lender has to have a yield of 7.5%, and if a borrower was only paying 7.25% interest, discount points would have to be paid to bring the yield up to 7.5% for the lender to make the loan. As a rule of thumb, for a 30 year loan 1 discount point (1% of loan amount) = 1/8% change in interest. In this example, the borrower would have to pay (be debited) 2 discount points to bring the yield up to 7.5%. In recent years, payment of discount points has become less common because of changes in FHA and VA lending rules.

Question #1

The Pickets are purchasing a home for $278,000 and the lender is giving them a 90% loan at 10% interest, plus a 2% loan origination fee (discount points). How much is the loan origination fee?

This is yet another example of reading the last sentence first. All this question is asking is the amount of the loan origination fee. Remember: It is based on the loan amount times (X) the % required by the bank.

a. $5,004
b. $4,560
c. $5,560
d. $7,020

Can you solve this one on your own? Give it a try before you move on to the following page.

Question #1 - *Solution*

The Pickets are purchasing a home for $278,000 and the lender is giving them a 90% loan at 10% interest, plus a 2% loan origination fee (discount points). How much is the loan origination fee?

This is yet another example of reading the last sentence first. All this question is asking is the amount of the loan origination fee. Remember: It is based on the loan amount times (X) the % required by the bank.

a. **$5,004**
b. $4,560
c. $5,560
d. $7,020

Correct Answer: A - Remember that loan origination fees are always based on the loan amount, and not the purchase price. The interest rate in this question is a detractor, and it is not needed to solve the problem.

Step 1 - $278,000 X 90% =$250,200 loan.

Step 2 - $250,200 X 2% loan origination fee = $5,004.

Okay, let's move on to the next sample question on the following page.

Question #2

The Links purchased a home for $750,000. The lender is giving them an 80% loan at an interest rate of 8% with principal and interest payments of $4,400 a month. The lender is charging the Links a 3% loan origination fee (discount points). How much is the loan origination fee to be paid at closing, and how would it appear on the settlement statement?

Is the loan origination fee a debit (charge) or credit to the buyer? Remember: The L.O.F. (loan origination fee) is based on the loan amount. There are lots of numbers in this problem you don't need!

a. $22,500 - Debit the buyer.
b. $25,075 - Credit the buyer.
c. $18,000 - Debit the buyer.
d. $4,402 - Credit the buyer.

Try to solve this before going to the next page for the answer.

Question #2 - *Solution*

The Links purchased a home for $750,000. The lender is giving them an 80% loan at an interest rate of 8% with principal and interest payments of $4,400 a month. The lender is charging the Links a 3% loan origination fee (discount points). How much is the loan origination fee to be paid at closing, and how would it appear on the settlement statement?

Is the loan origination fee a debit (charge) or credit to the buyer? Remember: The L.O.F. (loan origination fee) is based on the loan amount. There are lots of numbers in this problem you don't need!

a. $22,500 - Debit the buyer.
b. $25,075 - Credit the buyer.
c. $18,000 - Debit the buyer.
d. $4,402 - Credit the buyer.

Correct Answer: C - The interest rate and the monthly payment are detractors in this problem.

Step 1 - $750,000 X 80% = $600,000 loan amount.

Step 2 - $600,000 X 3% loan origination fee = $18,000 debit the buyer.

Question #3

The Smiths purchased a home and received a loan for $125,000, which was 80% of the purchase price. The lender charged a 2% loan origination fee (discount points). How much did the Smiths have to pay at closing for the loan origination?

This question is a little tricky! "Buyer received a loan for $125,000, WHICH WAS 80% OF THE PURCHASE PRICE." Don't make the mistake of reducing this loan; it is already done for you! Just the loan amount times the L.O.F.

a. $3,500
b. $3,000
c. $2,500
d. $2,000

Question #3 - *Solution*

The Smiths purchased a home and received a loan for $125,000, which was 80% of the purchase price. The lender charged a 2% loan origination fee (discount points). How much did the Smiths have to pay at closing for the loan origination?

This question is a little tricky! "Buyer received a loan for $125,000, WHICH WAS 80% OF THE PURCHASE PRICE." Don't make the mistake of reducing this loan; it is already done for you! Just the loan amount times the L.O.F.

a. $3,500
b. $3,000
c. $2,500
d. $2,000

Correct Answer: C - You need to be very careful when reading this question. The $125,000 is the loan amount, and you do not have to do anything to figure it out. So the 80% is a detractor, and it is not needed to solve the problem.

Step 1 - $125,000 X 2% loan origination fee = $2,500.

Let’s look at the topic of rent on the next page.

Section X - Rent

Rent prorations will usually only appear on the broker examination. However, it is possible to see a problem on the salesperson exam.

In most rent prorations, the seller will have already collected rents for the entire month in which the closing is taking place. For example, the seller has collected rents of $300 each for two apartments. Closing is taking place on July 15. How would the rent be prorated and how would it appear on a full settlement statement?

360-day method:

- Step 1: $300 X 2 = $600 collected for the month.
- Step 2: Unless you are told otherwise, the seller keeps the money for the day of closing; so the seller owes the buyer for 15 days.
- Step 3: $600/30 = $20 a day X 15 days = $300, which is a debit to the seller and a credit to the buyer.

365-day method:

- Step 1: $300 X 2 = $600 collected for the month.
- Step 2: Unless you are told otherwise, the seller keeps the money for the day of closing; so the seller owes the buyer for 16 days.
- Step 3: $600/31 = $19.35 a day X 16 days = $309.68, which is a debit to the seller and a credit to the buyer.

Let's practice this type of question on the following page.

Question #1

A property was sold and the closing took place on November 15, 2010. This property contained ten apartments with rentals due the first of each month, for each unit of $750. The seller collected the rent for the month on November 1. How much would the rent proration be, and how would it appear on the settlement statement?

Unless you are told otherwise, the seller is credited for the day of settlement. This problem is done the same way you did prepaid insurance or prepaid taxes.

360-day method choices:

a. $7,500 - Debit the seller and credit the buyer.
b. $7,500 - Debit the buyer and credit the seller.
c. $3,750 - Credit the seller and debit the buyer.
d. $3,750 - Credit the buyer and debit the seller.

365-day method choices:

a. $7,500 - Debit the seller and credit the buyer.
b. $7,500 - Debit the buyer and credit the seller.
c. $3,750 - Credit the seller and debit the buyer.
d. $3,750 - Credit the buyer and debit the seller.

Question #1 - *Solution*

A property was sold and the closing took place on November 15, 2010. This property contained ten apartments with rentals due the first of each month, for each unit of $750. The seller collected the rent for the month on November 1. How much would the rent proration be, and how would it appear on the settlement statement?

Unless you are told otherwise, the seller is credited for the day of settlement. This problem is done the same way you did prepaid insurance or prepaid taxes.

360-day method:

a. $7,500 - Debit the seller and credit the buyer.
b. $7,500 - Debit the buyer and credit the seller.
c. $3,750 - Credit the seller and debit the buyer.
d. $3,750 - Credit the buyer and debit the seller.

Correct Answer: D - The seller has collected rent for part of the month that he/she will not own the property. That money needs to be given to the buyer.

- Step 1: $750 X 10 units = $7,500 monthly income
- Step 2: $7,500 divided by 30 days =$250 a day
- Step 3: The seller gets credit for the day of closing; so the buyer receives credit from the 16th to the 30th. (15 days)
- Step 4: $250 X 15 days = $3,750 debit the seller and credit the buyer.

365-day method:

a. $7,500 - Debit the seller and credit the buyer.
b. $7,500 - Debit the buyer and credit the seller.
c. $3,750 - Credit the seller and debit the buyer.
d. $3,750 - Credit the buyer and debit the seller.

Correct Answer: D - The seller has collected rent for part of the month that he/she will not own the property. That money needs to be given to the buyer.

- Step 1: $750 X10 units = $7,500 monthly income.
- Step 2: $7,500 divided by 30 days (30 days in November) = $250 a day.
- Step 3: The seller gets credit for the day of closing, so the buyer receives credit from the 16th to the 30th (15 days).
- Step 4: $250 X 15 days = $3,750, debit the seller and credit the buyer. If the closing took place in December, you would add an extra day.

Question #2

A 20-unit office building was sold and the closing took place on May 20, 2010. The seller collected $1,250 rent from each of the tenants on May 1. How much would the rent proration be, and how would it appear on a full settlement statement?

Figure out the total rent collected and treat this type of problem the same as you would prepaid taxes or insurance.

360-day method choices:

a. $25,000 - Debit the seller and credit the buyer.
b. $8,333.33 - Credit the seller and debit the buyer.
c. $8,333.33 - Debit the seller and credit the buyer.
d. $416.66 - Debit the seller and credit the buyer.

365-day method choices:

a. $25,000 - Debit the seller and credit the buyer.
b. $8,870.97 - Credit the seller and debit the buyer.
c. $8,870.97 - Debit the seller and credit the buyer.
d. $403.23 - Debit the seller and credit the buyer.

Remember to figure this out on your own before going onto the next page.

Question #2 - *Solution*

A 20-unit office building was sold and the closing took place on May 20, 2010. The seller collected $1,250 rent from each of the tenants on May 1. How much would the rent proration be, and how would it appear on a full settlement statement?

Figure out the total rent collected and treat this type of problem the same as you would prepaid taxes or insurance.

360-day method:

a. $25,000 - Debit the seller and credit the buyer.
b. $8,333.33 - Credit the seller and debit the buyer.
c. $8,333.33 - Debit the seller and credit the buyer.
d. $416.66 - Debit the seller and credit the buyer.

Correct Answer: C - This problem is completed the same way as the first question.

- Step 1 - $1,250 X 20 units =$25,000 collected in rent.
- Step 2 - $25,000 divided by 30 days = $833.33 a day rent collected.
- Step 3 - The seller keeps the money for the day of closing so the buyer receives a credit for 10 days of rent.
- Step 4 - $833.33 X 10 = $8,333.33 debit the seller and credit the buyer.

365-day method:

a. $25,000 - Debit the seller and credit the buyer.
b. $8,870.97 - Credit the seller and debit the buyer.
c. $8,870.97 - Debit the seller and credit the buyer.
d. $403.23 - Debit the seller and credit the buyer.

Correct Answer: C - This problem is completed the same way as the first question.

- Step 1 - $1,250 X 20 units =$25,000 collected in rent.
- Step 2 - $25,000 divided by 31 days in May = $806.45 a day rent collected.
- Step 3 - The seller keeps the money for the day of closing, so the buyer receives a credit for 11 days of rent.
- Step 4 - $806.45 X 11 = $8,870.97, debit the seller and credit the buyer. – Answer C

Let's move on now to our final math topic.

Section XI - Water

Water is usually prepaid by the seller, so you would credit the seller and debit the buyer.

For example, a closing takes place on October 31. The seller has paid the six-month water bill of $300 through December 31. How would the proration appear on a full settlement statement?

360-day method:

$300/6 months = $50 a month. The seller paid for two months that were not used, so $50 X 2 = $100 credit the seller and debit the buyer.

365-day method:

$300/184 days (July 31 days + August 31 days + September 30 days + October 31 days + November 30 days + December 31 days =184 days) = $1.63 a day. Seller paid for two months that were not used. (November 30 days + December 31 days = 61 days) $1.63 X 61 days = $99.46 credit the seller and debit the buyer.

Naturally, if the water bill has not been paid, you would debit the seller and credit the buyer.

For this section, unless you are told otherwise, the seller owns the day of closing.

Beginning on the following page, we have two sample water-related questions for you to solve.

Question #1

A closing took place on October 30, 2010. The seller had paid the water bill that cost $875 for the year January 1, 2010 to December 31, 2010. How much is the water proration based upon a 360-day year, and how would it appear on a settlement statement?

Treat this "prepaid" just like prepaid taxes or rents.

360-day method choices:

a. $875 - Credit the seller and debit the buyer.
b. $437.59 - Debit the seller and credit the buyer.
c. $145.83 - Credit the seller and debit the buyer.
d. $72.92 - Credit the seller and debit the buyer.

365-day method choices:

a. $875 - Credit the seller and debit the buyer.
b. $437.59 - Debit the seller and credit the buyer.
c. $148.80 - Credit the seller and debit the buyer.
d. $72.92 - Credit the seller and debit the buyer.

Question #1 - *Solution*

A closing took place on October 30, 2010. The seller had paid the water bill that cost $875 for the year January 1, 2010, to December 31, 2010. How much is the water proration, and how would it appear on a settlement statement?

Treat this "prepaid" just like prepaid taxes or rents.

360-day method:

a. $875 - Credit the seller and debit the buyer.
b. $437.59 - Debit the seller and credit the buyer.
c. $145.83 - Credit the seller and debit the buyer.
d. $72.92 - Credit the seller and debit the buyer.

Correct Answer: C - The seller in this question has paid the water bill for the entire year. Since the closing is taking place before the end of the year, the seller needs to be credited at closing for the time not used.

- Step 1 - The seller has paid for 2 months (November & December) that were not used.
- Step 2 - $875 paid for the year divided by 12 = $72.92 a month.
- Step 3 - $72.92 X 2 months = $145.83 credit the seller and debit the buyer.

365-day method:

a. $875 - Credit the seller and debit the buyer.
b. $437.59 - Debit the seller and credit the buyer.
c. $148.80 - Credit the seller and debit the buyer.
d. $72.92 - Credit the seller and debit the buyer.

Correct Answer: C - The seller in this question has paid the water bill for the entire year. Since the closing is taking place before the end of the year, the seller needs to be credited at closing for the time not used.

- Step 1 – The seller has paid for 62 days that were not used (October 1 day + November 30 days + December 31 days).
- Step 2 - $875 paid for the year divided by 365 days in a year = $2.40 a day. (Do not clear your calculator.)
- Step 3 - $2.40 a day X 62 days = $148.80, credit the seller and debit the buyer .

Question #2

A closing took place on March 24, 2010. The seller did NOT pay the water bill, which is due on June 30, for six months. The cost of the water for six months was $450. How should the water be prorated, and how would it appear on the settlement statement?

In this problem, the seller owes for water from January 1 to March 24. Handle this the same way you would taxes that are paid in arrears. The seller owes for the water that was used and owns the day of closing.

360-day method choices:

a. $450 - Debit the seller and credit the buyer.
b. $225 - Debit the seller and credit the buyer.
c. $287.50 - Credit the seller and debit the buyer.
d. $210 - Debit the seller and credit the buyer.

365-day method choices:

a. $450 - Debit the seller and credit the buyer.
b. $225 - Debit the seller and credit the buyer.
c. $287.50 - Credit the seller and debit the buyer.
d. $206.35 - Debit the seller and credit the buyer.

Question #2 - *Solution*

A closing took place on March 24, 2010. The seller did NOT pay the water bill, which is due on June 30, for six months. The cost of the water for six months was $450. How should the water be prorated, and how would it appear on the settlement statement?

This problem the seller owes for water from January 1 to March 24. Handle this the same way you would taxes that are paid in arrears. The seller owes for the water that was used and owns the day of closing.

360-day method:

a. $450 - Debit the seller and credit the buyer.
b. $225 - Debit the seller and credit the buyer.
c. $287.50 - Credit the seller and debit the buyer.
d. $210 - Debit the seller and credit the buyer.

Correct Answer: D - Read the problem carefully, and be sure you understand that the water bill is NOT paid. The bill will have to be paid by the buyer on June 30.

- Step 1 - $450 divided by 180 days = $2.50 a day.
- Step 2 - The seller owes for 2 months and 24 days or 84 days. (As previously stated, unless you are told otherwise the seller is charged for the day of closing)
- Step 3 - $2.50 X 84 days =$210 debit the seller and credit the buyer.

365-day method:

a. $450 - Debit the seller and credit the buyer.
b. $225 - Debit the seller and credit the buyer.
c. $287.50 - Credit the seller and debit the buyer.
d. $206.35 - Debit the seller and credit the buyer.

Correct Answer: D – Read the problem carefully, and be sure you understand that the water bill is NOT paid. The bill will have to be paid by the buyer on June 30.<p>

- Step 1 - $450 divided by 181 days = $2.49 a day. (Again, do not clear your calculator.)
- Step 2 – The seller owes for January 31 days + February 28 days + 24 days in March = 83 days. (As stated, unless you are told otherwise the seller is credited for the day of closing.)
- Step 3 - $2.49 X 83 days =$206.35, debit the seller and credit the buyer.

About the Authors

Geoffrey Thompson has been involved in real estate since 1975, both in the commercial and residential disciplines. He has been teaching for over 25 years, is co-founder of RealEstateExpress.com and LicenseTutor.com, and is author/editor of a number of popular continuing education and real estate courses. Geoff has a Bachelor of Science degree in Engineering, and a Master's degree from the Graduate Business School of Webster University.

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Geoff's seasoned wisdom and his unabashed disregard for political correctness have made him a favorite with the media. In addition to appearances on CNN, Bloomberg Business, MSN's Money Central News Hour, and First Business, Geoff is a frequent guest on local TV and Radio from coast-to-coast, appearing on over 80 shows in 2001 alone. He is author of the recent best-selling "E-Business To Go: Insider Secrets" as well as over a dozen online titles, including "The Techies Guide to Interpersonal Skills", "The Connected Manager's Guide to Stress Management", and "Marketing to the World."

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Mr. Linkemer has been a licensed real estate broker since 1967 and has been teaching real estate for the past 18+ years. He has been involved in all aspects of the brokerage business, including speculation, brokerage, new home sales and management. As the saying goes, he has "walked the talk".

Rich held the position of Regional Vice President of the Real Estate Educators Association and he served as the President of Mid-America Real Estate Educators Association and is one of approximately 125 educators in the country holding the prestigious designation of Distinguished Real Estate Instructor - "DREI"

Rich has earned the designations of, "Senior Real Estate Specialist" and "Consumer-Certified Real Estate Consultant" as well as being named Educator of the year in 2003 by the St. Charles County Association of REALTORS®.