



# Broker Final Exam Review Math

# Sales Comparable Approach

## Page 97

A comparable property sold for \$329,000. The subject property is in much better physical condition than the comparable. The difference in physical condition is a differential of \$14,000. When estimating the value of the subject property, what adjustment should be made?

Subject

Better Condition

Comparable

\$329,000

+ 14,000 (CIA)

\$343,000

# Cost Approach

## Page 110

A warehouse was built 14 years ago at a cost of \$325,000. The cost to build it today would be approximately \$950,000. New warehouses have an estimated life of 25 years. If the appraiser estimates the effective age at 18 years, what is the present depreciated cost of the warehouse?

$\$950,000 \div 25 \times 18 = \$684,000$  accrued depreciation

$\$950,000 - \$684,000 = \$266,000$  depreciated value

# Cost Approach

## Page 110

The current replacement cost of an apartment building is \$2,000,000 and similar structures have a economic life of 25 years. If the effective age of the building is estimated to be 9 years, what is the accrued depreciation?

Two methods:

- 1) 9 of 25 years used up;  $9 \div 25 = 36\%$  depreciated  
A.  $\$2,000,000 \times 36\% = \$720,000$  accrued depreciation
- 2)  $2,000,000 \div 25 \times 9 = \$720,000$  accrued depreciation

# Income Approach

Page 112-114

What is the estimated net operating income?

Each unit in a 15-unit apartment complex rents for \$2,250 per month

Vacancy and collection losses = 5%

Fixed expenses = \$26,800

Variable expenses = \$32,300

Reserves for replacements = \$11,800

Annual debt service = \$23,000

PGI	\$405,000	\$2,250mo. X12 mo. X 15 units)
<u>-VAC</u>	<u>-20,250</u>	5%
EGI	384,750	
<u>-OE</u>	<u>-70,900</u>	(26,800+32,300+11,800)
<u>_NOI</u>	<u>\$313,850</u>	

# Income Approach

Page 112-114

The potential income of a warehouse is \$150,000 per year and the vacancy allowance is 3%. Property taxes are \$12,000 per year, annual maintenance costs are \$8,200 per year, annual reserves for replacements is \$7,700, annual debt service is \$40,000 and depreciation is \$3,850. If the capitalization rate is 11%, what is the estimated value of the warehouse?

PGI	150,000		
<u>-VAC</u>	<u>- 4,500</u>	$\frac{I}{R \times V}$	$\frac{117,600}{11\%}$
EGI	145,500		
<u>-OE</u>	<u>- 27,900</u>		
NOI	117,600	Value	1,069,090.91



# Discount Points

## Page 204

John purchases a property for \$368,000 with a down payment of 10% and a new bank loan for the remainder. If the lender is giving the loan at 4% interest with three and a half points, how much will John pay for the points?

$$\$368,000 \times 90\% \times 3.5\% = \$11,592.00$$

# Sale Price – Closing Disclosure

## Page 234

A buyer makes an offer on the property for \$190,000 which the seller accepts. The listed price is \$200,000.00. How much is the sale price and where does it appear on the Closing Disclosure?

- a. \$190,000 debit seller, credit buyer p.2
- b. \$190,000 credit seller, debit buyer p.3
- c. \$200,000 debit buyer, credit seller p 1
- d. \$200,000 credit buyer, debit seller p2



# Rent Proration

## Page 241

A broker lists a triplex. The sellers reside in one unit and rent out the other two units, one for \$1,200 a month and one for \$900 a month. Closing is scheduled for May 10. The buyer will own the day of closing. Rent is due and payable on the first of the month, and the sellers have a security deposit in the amount of the monthly rent from each of their tenants. How much is the rent proration and how does it appear on the closing disclosure?

- a. \$3,820.68, debit seller, credit buyer
- b. \$3,590.32 debit seller, \$3,820.68 credit buyer
- c. \$3,575.34 debit buyer, credit seller
- d. \$3,590.32, debit seller, credit buyer

# Rent Proration

Page 243

Solution:

Unit one: \$1,200 monthly rent

Unit two: \$900 monthly rent

\$2,100 total rent

Seller – 9 days

Buyer – 22 days

May = 31 days

$\$2,100 \div 31 \times 22 = \$1,490.32$  rent

+ \$2,100.00 security deposit

\$3,590.32 debit seller, credit buyer

# Tax Proration

## Page 243

The day of closing for a Florida real estate sales transaction is April 15 and is charged to the buyer. Property taxes are \$5,000. Using the 365-day method, how is the property tax prorated and where does it appear on the Closing Disclosure?

- a. Debit seller \$3,575.34, credit buyer, \$3,575.34; p.3
- b. Debit seller, \$1,424.66, credit buyer, \$1,424.55; p.3
- c. Debit buyer, \$3,575.34, credit seller, \$3,575.34; p.2
- d. Debit seller, \$1,424.66, credit buyer, \$1,424.66; p.3

$$\$5,000 \div 365 \times 104 = \$1,424.66$$

Jan- 31

Feb 28

Mar 31

Apr 14

104 days

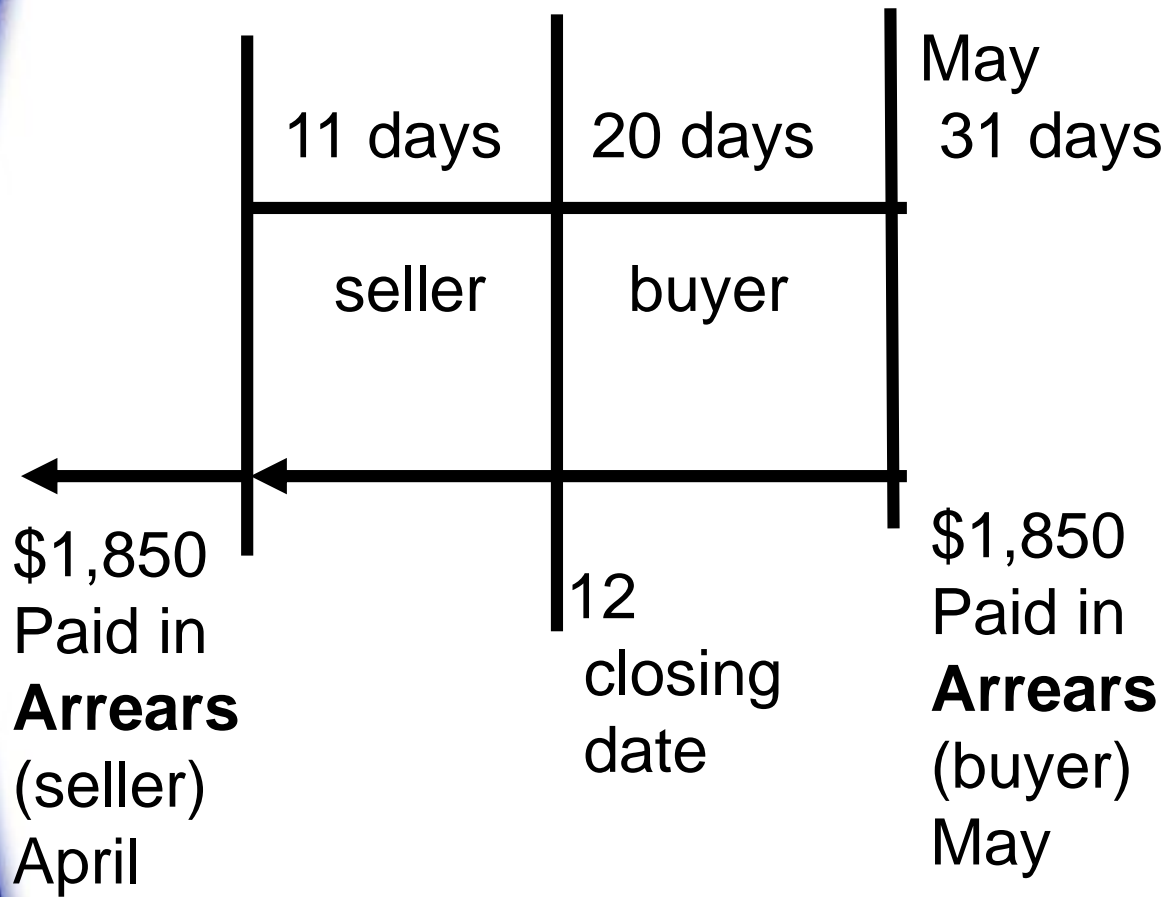
# Loan Assumption

## Page 243

A real estate closing is scheduled for May 12. The buyer owns the day of closing. The buyer is assuming the seller's mortgage. The monthly payment on the mortgage is \$1,850 (principle and interest). The mortgage is paid in arrears at the end of each month. Using the 365 day method, how much is the proration on the assumed loan payment and how does it appear on the Closing Disclosure?

- a. \$1,193.55, debit buyer, credit seller
- b. \$656.45 debit seller, credit buyer
- c. \$1,193.55 debit seller, credit buyer
- d. \$656.45 debit buyer, credit seller

# Assumed loan



**Debit**  

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**Seller**

**Credit**  

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**Buyer**

$$\$1,850 \div 31 \times 11 = \$665.32$$

# State Documentary Stamp Tax

Page 247

with a sale price of \$576,110 and an assumed loan of \$500,000, how much would the seller normally pay in transfer taxes?

$$\begin{aligned} & \$576,110 \div 100 (5,761.10) \text{ round to } 5,762 \times .70 = \\ & \$4,033.40 \end{aligned}$$



# State Documentary Stamp Tax

Page 247,248

a buyer purchases a property for \$255,000. The buyer is assuming the seller's mortgage; the balance at closing is \$220,000 at 4% interest with 26 years remaining on the term. How much are the government transfer taxes for the buyer and seller?

- a. \$1,900 seller, \$0 buyer
- b. \$ \$0 seller, \$1,900 buyer
- c. \$1,785 seller, \$770 buyer**
- d. \$1,785 seller, \$0 buyer

$$255,000 \div 100 \times \$0.70 = \$1,785$$

$$220,000 \div 100 \times \$0.35 = \$770$$

# State Documentary Stamp Tax

Page 247,248

A seller, not located in Dade County, lists their house for \$297,000. A buyer makes an offer of 290,000, which the seller accepts. The buyer's mortgage amount is \$245,500. How much are the government transfer taxes for the buyer and the seller and how do they appear on the Closing Disclosure?

- a. \$2,030 seller, \$1,350.25 buyer
- b. \$2,030 seller, \$491.00 buyer
- c. \$2,079 seller, \$1,350.25 buyer
- d. \$2,030 seller, \$859.25

$$\$290,000 \div 100 \times \$.70 = \$2,030$$

$$\$245,500 \times .002 = \$491$$

$$245,500 \div 100 \times \$.35 = \$859.25$$

$$\$491 + 859.25 = 1,350.25$$

# Intangible Tax

Page 248

The sale price is \$279,000. The buyer is assuming a loan of \$150,000 and the seller is financing \$35,000 on a purchase money mortgage. How much is the intangible tax on the transaction?

$$.002 \times \$35,000 = \$70$$

# Commission

## Page 253

A buyer makes an offer on a property for \$200,000 which the seller accepts. The commission rate is 5%. The listed price is \$209,000. How much is the brokerage fee and how would it typically appear on the Closing Disclosure?

- a. \$10,000.00 debit seller
- b. \$10,000 debit buyer
- c. \$10,450 debit buyer
- d. \$10,450 debit seller

$$\$200,000 \times 5\% = \$10,000$$

# Tax Effects

## Page 269

Adam buys a building with an estimated net operating income of \$38,000. Depreciation for income tax purposes is \$12,000 for the year purchased, and the reserves for replacements are \$7,500. If the annual mortgage loan payments are \$11,000, which includes interest of \$9,800, what is the taxable income from Adam's investment?

\$38,000	NOI
+7,500	Reserves for replacements
-12,000	Depreciation
<u>-9,800</u>	Mortgage Interest
\$23,700	Taxable Income

# Depreciation

## Page 270

A \$350,000 residential investment building would have an allowable depreciation deduction in the first year of ownership of how much?

$$\$350,000 \div 27.5 \text{ years} = \$12,727$$



# Depreciation

## Page 270

What is the allowable depreciation deduction for the first year of ownership of a \$225,000 commercial investment building?

$$\$225,000 \div 39 \text{ years} = \$5,769$$

# Capital Gain and Loss

## Page 271

What is the realized gain on this property, considering the following information? A married couple has lived in the home three out of the last five years. The original purchase price was \$275,000 with \$4,000 in capital improvements and \$15,000 in closing costs. The home recently sold for \$325,000 with \$20,000 in closing costs.

$$325,000 - 20,000 - 4,000 - 15,000 - 275,000 = 11,000$$

# Cash Breakeven

Page 295

The potential gross income on an investment property is \$700,000 with \$300,000 in operating expenses. The owner-customer has \$280,000 for debt service; of this \$224,000 consists of mortgage interest. If the proper reserve for replacements is estimated at \$9,000. what is the cash break-even ratio?

$$\frac{\text{Operating Expenses} - \text{Reserves} + \text{Annual Debt Service}}{\text{Potential Gross Income}}$$

$$\frac{300,000 - 9,000 + 280,000}{700,000} = 82\%$$

# Before Tax Equity Dividend Rate

Page 295

The property has a Net Operating Income of \$72,000 and debt service of \$50,000. If an investor is making a down payment of \$190,000, what is the before-tax equity dividend rate?

$$72,000 - 50,000 \div 190,000 = 11.6\%$$

Equity Dividend Rate

# Debt Service Coverage Ratio

Page 295

In this example, effective gross income is \$170,000, fixed expenses are \$40,000, variable expenses are \$52,000 and reserves are \$12,000. If the debt service is \$53,000, what is the debt-service-coverage ratio?

$$\frac{\text{Net Operating Income}}{\text{Debt Service}} = \frac{\$66,000}{\$53,000} = 1.25$$