

MATH

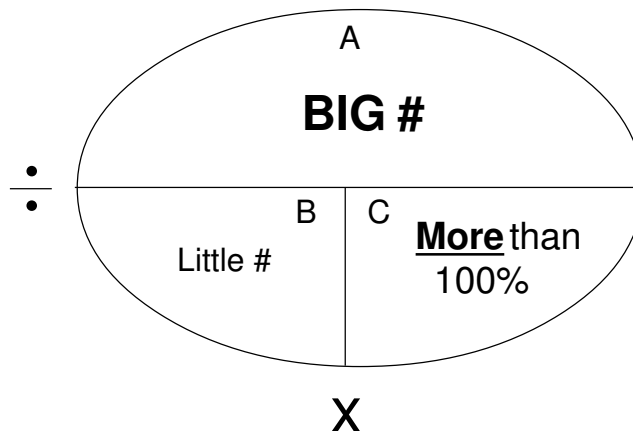
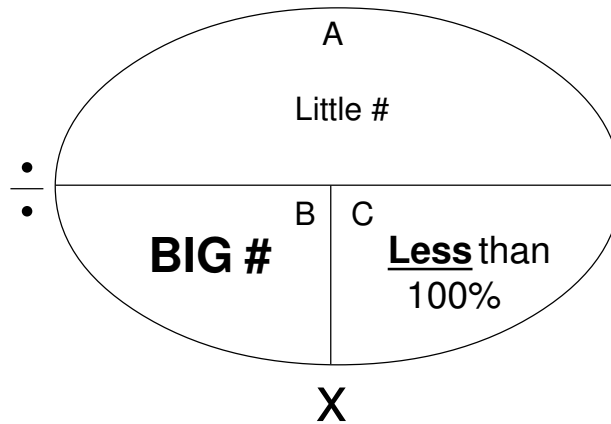
Approximately 8 to 12 math questions on the typical broker exam

Approximately 4 to 8 math questions on the typical broker exam

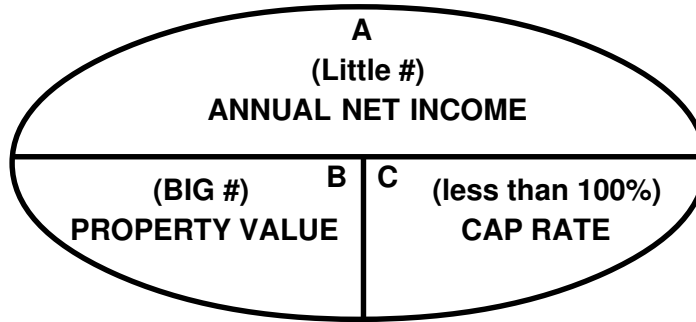
I. CALCULATORS - You may no longer bring your own calculator to the state exam. The Department of Real Estate will provide you with a basic calculator to use.

II. CIRCLE DIAGRAM Rules

1. Percentage always goes in box "C."
2. Little number in "A," big number in "B," where "C" is less than 100%.
3. Little number in "B," big number in "A," where "C" is more than 100%.
4. The "A" number always gets divided by the other number.
5. Always annualize the figures.

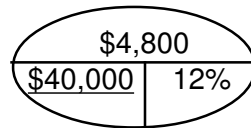


**CAPITALIZATION
APPRAISAL
PROBLEMS**



1. The net income of an apartment building went down \$400 per month when a freeway was built nearby. If investors demand a 12% capitalization rate for this area, how much has the building lost in value?

- A. \$3,333
- B. \$20,000
- C. \$36,000
- D. \$40,000

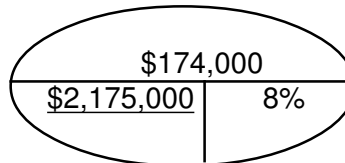


ANS. 1 D

- (1) $\$400 \times 12 = \$4,800$.
- (2) $\$4,800$ divided by 12% = \$40,000.

2. Leonard, an intelligent real estate investor, wants to purchase a 40-unit apartment building that has an annual net income of \$174,000. How much would he be willing to pay for the building, if he uses a 8% capitalization rate?

- A. \$1,400,000
- B. \$1,650,000
- C. \$1,985,000
- D. \$2,175,000

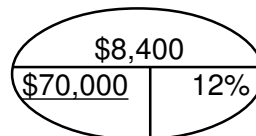


ANS. 2 D

- (1) $\$174,000$ divided by 8% = \$2,175,000.

3. A small income property generates a monthly gross income of \$1,000. Over the last five years it has been vacant for three months. The annual expenses are \$3,000. If an appraiser applied a 12% capitalization rate to this property, what would be the value?

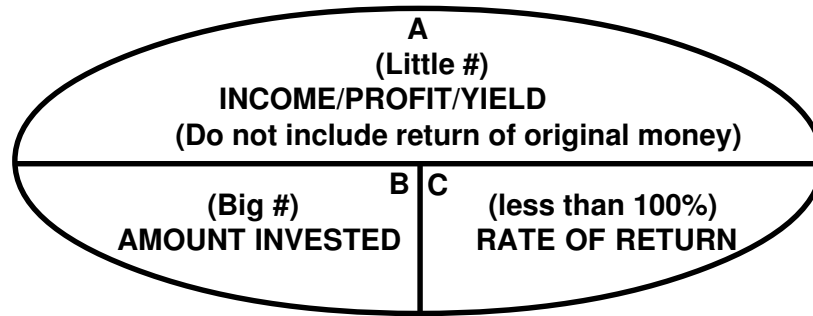
- A. \$58,000
- B. \$65,000
- C. \$70,000
- D. \$90,000



ANS. 3 C

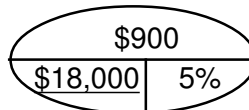
- (1) $\$1,000 \times 12 = \$12,000$ annual gross income.
- (2) 12 months x 5 years = 60 months.
- (3) 3 months vacancies divided by 60 months = .05 = 5% vacancy factor.
- (4) $\$12,000$ Annual gross income x 5% vacancy factor = \$600 annual vacancy loss.
- (5) $\$12,000 - \$600 = \$11,400$ adjusted gross income.
- (6) $\$11,400$ adjusted gross income - \$3,000 annual expenses = \$8,400 annual net income.
- (7) $\$8,400$ divided by 12% = \$70,000.

INVESTMENT PROBLEMS



1. How much would an investor need to invest in order to earn \$75 per month from an investment which offers a 5% rate of return?

- A. \$4,000
- B. \$9,000
- C. \$12,000
- D. \$18,000

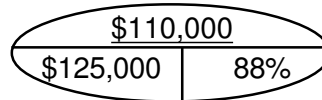


ANS. 1 D

- (1) $\$75 \times 12 = \900 per year
- (2) $\$900$ divided by 5% = \$18,000

2. Joyce purchased a home for \$125,000. She received a loan from the bank for 88% of the purchase price, payable at \$1,549 per month including 12% interest. She then sold the home for \$139,750 before she even made the first payment on the loan. What was her equity at the time of the sale?

- A. \$12,000
- B. \$14,750
- C. \$29,750
- D. \$125,000



ANS. 2 C

- (1) $\$125,000 \times 88\% = \$110,000$ loan amount
- (2) $\$139,750 - \$110,000$ loan = \$29,750 equity

Continued...