

Real Estate Math Practice

Questions 1-5 of 10 • Use a calculator. Round final money and percentages to two decimals.

Name: _____ Date: _____

01 Price per square foot

A lot in a subdivision costs \$300,000. It is 100 feet wide and 150 feet deep. How much is the price per square foot?

02 Commission

During the listing agreement a commission of 6% is established. The house is sold for \$450,000. What is the commission?

03 Total appreciation

A lot purchased 25 years ago for \$40,000 has appreciated a total of 45% since its purchase. What is it worth today?

04 Recover the original value

The value of a property is \$180,000 today. What was the original cost of the property if it has lost 20% of its value over the past three years?

05 Gross rent multiplier

Find the annual GRM. A 9-unit building in Cleveland Ohio, with an asking price of \$2,000,000 and gross annual rents of \$105,000 (Round the nearest hundredth).

Real Estate Math Practice

Questions 6-10 of 10 • Use a calculator. Round final money and percentages to two decimals.

Show your calculation and include the correct units. Worked answers begin on page 3.

06 Annual interest rate

What is the interest rate on a \$150,000 loan that requires an annual interest payment of \$6,500?

07 Semiannual interest

What is the annual interest rate on a \$80,000 loan that requires a semiannual interest payment of \$1,000?

08 Assessment and mills

A property's market value is \$350,000. The assessment rate for the house is 25% with 27.50 mills. Find the annual property taxes.

09 Quarterly prepaid taxes

Gina buys a property and closes on March 1st. The seller prepaid the property's taxes of \$750 for January through March. Using monthly proration and charging the buyer for the month of closing, how much does Gina owe the seller for real estate taxes?

10 Annual prepaid taxes

Newton buys a property and closes on September 1st. The seller prepaid the property's annual taxes of \$2,000 for the year. Using monthly proration and charging the buyer for the month of closing, how much does Newton owe the seller? Round only the final answer to the nearest cent.

Worked Answers

Solutions 1-5 of 10 • Check the method as well as the final number.

01 Price per square foot

\$20 per square foot

Area = width × depth = $100 \times 150 = 15,000$ square feet. Price per square foot = $\$300,000 \div 15,000 = \$20$.

Divide by area, not by one side of the lot.

02 Commission

\$27,000.00

Commission = sale price × the agreed rate. $\$450,000 \times 0.06 = \$27,000$.

The rate is supplied by this problem; it is not a standard commission rate.

03 Total appreciation

\$58,000.00

Current value = original value × (1 + total appreciation). $\$40,000 \times 1.45 = \$58,000$.

45% is the total increase, not an annual rate to compound for 25 years.

04 Recover the original value

\$225,000.00

After a 20% loss, 80% of the original value remains. Original value = $\$180,000 \div 0.80 = \$225,000$.

Adding 20% to the current value uses the wrong starting amount.

05 Gross rent multiplier

19.05

Annual GRM = asking price ÷ gross annual rent. $\$2,000,000 \div \$105,000 = 19.047619...$; round to 19.05.

Match annual rent to annual GRM. Do not subtract expenses.

Worked Answers

Solutions 6-10 of 10 • Check the method as well as the final number.

06 Annual interest rate

4.33%

Rate = annual interest ÷ principal. $\$6,500 \div \$150,000 = 0.043333\dots$; multiply by 100 to obtain 4.33%.

Use interest only, not a combined principal-and-interest payment.

07 Semiannual interest

2.50%

Two semiannual payments make a year: $\$1,000 \times 2 = \$2,000$. Annual rate = $\$2,000 \div \$80,000 \times 100 = 2.50\%$.

Semiannual means twice a year, not once every two years.

08 Assessment and mills

\$2,406.25

Assessed value = $\$350,000 \times 0.25 = \$87,500$. Tax rate = $27.50 \div 1,000 = 0.02750$. Annual tax = $\$87,500 \times 0.02750 = \$2,406.25$.

Apply the mill rate to assessed value, not directly to market value.

09 Quarterly prepaid taxes

\$250.00

The prepaid period covers three months. Monthly tax = $\$750 \div 3 = \$250$. Gina is charged March, so she owes the seller \$250.

Follow the problem's monthly proration and closing-month instructions.

10 Annual prepaid taxes

\$666.67

The buyer owes September through December: four months. $\$2,000 \times 4 \div 12 = \$666.666\dots$; round once, at the end, to \$666.67.

Rounding the monthly amount first would introduce a rounding error.

More practice: RealEstateLicenseWizard.com/real-estate-math/