

Exam

Name \_\_\_\_\_

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Write the number in scientific notation.

- 1) 0.000209 1) \_\_\_\_\_  
A)  $2.09 \times 10^{-4}$       B)  $2.09 \times 10^{-3}$       C)  $2.09 \times 10^{-5}$       D)  $2.09 \times 10^4$

Convert to standard notation.

- 2)  $7.53 \times 10^3$  2) \_\_\_\_\_  
A) 225.9      B) 75,300      C) 753      D) 7530

Solve the problem.

- 3) For lunch, Jamie bought a 8-inch submarine sandwich. What fraction of a foot was Jamie's sandwich? (1 foot = 12 inches) 3) \_\_\_\_\_  
A)  $\frac{5}{12}$  ft      B)  $\frac{2}{3}$  ft      C)  $\frac{7}{12}$  ft      D)  $\frac{5}{6}$  ft

- 4) A teacher bought a package of 48 markers for her first-grade class. After one school year, 13 markers were still working. What fraction of the package of markers was working? Express the result using a simple, convenient fraction that is close in value to the exact answer. 4) \_\_\_\_\_  
A)  $\frac{1}{4}$       B)  $\frac{3}{10}$       C)  $\frac{1}{5}$       D)  $\frac{1}{3}$

Solve the problem. Express your answer in simplest form.

- 5) An attorney drove  $1\frac{2}{5}$  miles from his home to a client's home and another  $12\frac{1}{4}$  miles to get to his office. How far did he drive in total? 5) \_\_\_\_\_  
A)  $12\frac{13}{20}$  mi      B)  $14\frac{13}{20}$  mi      C)  $1\frac{13}{20}$  mi      D)  $13\frac{13}{20}$  mi

Solve the problem.

- 6) A small company sells stock for  $10\frac{1}{4}$  dollars per share. How much will 128 shares cost? 6) \_\_\_\_\_  
A) 160 dollars      B) 162 dollars      C) 1312 dollars      D)  $12\frac{20}{41}$  dollars

- 7) On a certain map, 1 inch equals 32 miles. How many miles are in  $2\frac{1}{4}$  inches? 7) \_\_\_\_\_  
A)  $14\frac{2}{9}$  miles      B) 72 miles      C)  $16\frac{1}{4}$  miles      D) 17 miles

8) The floor of a rectangular room is to be tiled with  $\frac{1}{3}$  foot square tiles along a  $10\frac{5}{8}$  foot wall. How many tiles will be needed along the wall? 8) \_\_\_\_\_

A)  $3\frac{13}{24}$  tiles      B)  $31\frac{7}{8}$  tiles      C)  $30\frac{5}{8}$  tiles      D) 35 tiles

9) Jake has a cable that is 41.4 feet long. He wants to cut it into pieces that are 4.6 feet long. How many 4.6-foot pieces will he get from the cable? 9) \_\_\_\_\_

A) 10 pieces      B) 90 pieces      C) 9 pieces      D) 8 pieces

10) The fuel for a gas snowblower consists of 1.7 parts oil to 30.6 parts gas. Determine the ratio of oil to gas in simplest form. 10) \_\_\_\_\_

A) 17 : 1      B) 1 : 18      C) 1 : 19      D) 18 : 1

11) Carol and Donna agree to split a package of cashews according to how much time each of them spent mowing yards. Carol spent 231 minutes and Donna spent 264 minutes. Express the ratio of Carol's time to Donna's time in simplest form. How many of the 600 cashews will Carol get? 11) \_\_\_\_\_

A) 8 : 7; 320      B) 7 : 8; 280      C) 6 : 9; 240      D) 9 : 6; 360

12) The trim for a costume costs \$38.25 for 4.5 yd. Find the unit price in dollars per yard. 12) \_\_\_\_\_

A) \$76.50 per yd      B) \$33.75 per yd      C) \$42.75 per yd      D) \$8.50 per yd

13) Matt bought a 40 oz can of fuel additive for \$57.60. Roger bought the 64 oz size for \$65.28. Who made the better buy? What was the lowest price per ounce? 13) \_\_\_\_\_

A) Roger, \$1.44      B) Matt, \$1.02      C) Matt, \$1.44      D) Roger, \$1.02

Use a proportion to solve the problem. Round answers to the nearest tenth if necessary.

14) In a sample of 70 widgets, 8 were defective. How many defective widgets would you expect in a sample of 350 widgets? 14) \_\_\_\_\_

A) 43 widgets      B) 38 widgets      C) 40 widgets      D) 86 widgets

Use a proportion to solve the problem.

15) On Anne's bicycle, the ratio of pedal turns to rear-wheel turns in second gear is 4 to 7. If her rear wheel turns 994 times per mile, how many times does she turn the pedal in one mile? Express your answer as an integer or mixed number. 15) \_\_\_\_\_

A)  $1739\frac{1}{2}$  times      B) 998 times      C) 1001 times      D) 568 times

16) Under typical conditions,  $1\frac{1}{2}$  ft of snow will melt to 2 in. of water. To how many inches of water will  $3\frac{1}{4}$  ft of snow melt? Express your answer as an integer or mixed number. 16) \_\_\_\_\_

A)  $4\frac{1}{3}$  inches      B)  $6\frac{1}{2}$  inches      C)  $4\frac{7}{8}$  inches      D)  $4\frac{5}{12}$  inches

Solve the problem. Round your answer to the nearest tenth of a percent unless otherwise indicated.

17) On a biology test, a student got 25 questions correct but did not pass. On a second attempt, the student got 32 questions correct. What was the percent of increase? 17) \_\_\_\_\_

A) 28%      B) 72%      C) 21.9%      D) 7%

- 18) Enrollment in a business seminar increased from 51 people to 64 people. What was the percent of increase? 18) \_\_\_\_\_
- A) 25.5%                      B) 79.7%                      C) 20.3%                      D) 74.5%

Solve the problem. If the answer is an amount of money, round to the nearest dollar.

- 19) A chemical solution contains 3% salt. How much salt is in 4.5 ml of solution? 19) \_\_\_\_\_
- A) 0.135 ml                      B) 150 ml                      C) 1.35 ml                      D) 15 ml

- 20) The Perrones have saved \$20,000 for a down payment. If a 18% down payment is required, what price house can they buy? 20) \_\_\_\_\_
- A) \$1111                      B) \$111,111                      C) \$3600                      D) \$360,000

For the restaurant bill, estimate the tip. Then find the exact amount of the tip. State your answers to the nearest hundredth.

- 21) The restaurant bill is \$34.84. Give the estimate of a 20% tip and the exact amount of a 20% tip. 21) \_\_\_\_\_
- A) Estimate: \$4.50              Exact: \$5.23                      B) Estimate: \$3.00              Exact: \$3.48
- C) Estimate: \$6.00              Exact: \$6.97                      D) Estimate: \$7.50              Exact: \$8.71

Solve the problem. Assume that simple interest is being calculated in each case. Round your answer to the nearest cent.

- 22) John Lee's savings account has a balance of \$3427. After 9 months, what will the amount of interest be at 4.6% per year? 22) \_\_\_\_\_
- A) \$157.64                      B) \$166.65                      C) \$118.23                      D) \$380.78

Solve the problem.

- 23) June made an initial deposit of \$5000 in an account for her son. Assuming an interest rate of 7% compounded quarterly, how much will the account be worth in 11 years? Round to the nearest cent. 23) \_\_\_\_\_
- A) \$7451.81                      B) \$10,657.56                      C) \$10,727.15                      D) \$10,542.65