

NAME: \_\_\_\_\_

**Formulas**  
**Quiz 1**  
**“Calculator Skills, Order of Operations, Using Formulas”**

- 1.)  $4^2$  means:
  - a)  $4 \times 2$
  - b)  $4 + 4$
  - c)  $4 \times 4$
  - d)  $2 \times 2 \times 2 \times 2$
  
- 2.) Given the expression  $7^2$ , the *exponent* is the:
  - a) 7
  - b) 2
  
- 3.) “Five cubed” or “five raised to the third power” is written in math notation as:
  - a)  $\sqrt{5}$
  - b)  $5^3$
  - c)  $5 \times 3$
  - d)  $3^5$
  
- 4.) “The square root of 25” should be written as:
  - a)  $\sqrt{25}$
  - b)  $25^2$
  - c)  $25 \times 2$
  - d)  $\sqrt[3]{25}$
  
- 5.) Write three different ways to show the multiplication “five times seven.”
  - a) \_\_\_\_\_
  - b) \_\_\_\_\_
  - c) \_\_\_\_\_
  
- 6.) In math notation write “three times the square root of 36.”
  
- 7.) Evaluate each expression a-e. Where appropriate, round to the *nearest tenth*.
  - a)  $\sqrt{10}$
  - b)  $3 \cdot 1^2$
  - c)  $6^4$
  
  - d)  $5\sqrt{7}$
  - e)  $3(4)^2$

NAME: \_\_\_\_\_

8.) According to the *Order of Operations*, which must be done first? Circle the correct answer.

- additions and subtractions
- multiplications and divisions
- parentheses
- exponents and roots

***For Problems 9-14, round any decimal answers to the nearest tenth.***

9.) Evaluate:  $15 - 3(4)$

10.) Evaluate:  $3\sqrt{25+7}$

11.) Evaluate:  $6(15 - 2.5)^2$

12.) Evaluate:  $4(3)^5$

13.) Evaluate:  $\frac{9(16-11)}{3.5^2}$

14.) Evaluate:  $\sqrt{\frac{4(120)}{5}}$

15.) Given a rectangular-shaped room that is 16.5 ft long and 10.25 feet wide, determine the perimeter of the room by using this formula:  $P = 2L + 2W$

Perimeter = \_\_\_\_\_ ft (nearest tenth of a foot)

16.) Determine the amount of interest a person can earn if he invests \$250 in savings account for 2.75 years that pays 3.3% simple interest? Use the formula:  $I = PRT$

\_\_\_\_\_ (nearest penny)

NAME: \_\_\_\_\_

17.) Kim is to pay back a loan of \$400 plus \$35 interest, all of which is due at the end of 9 months. What is the interest rate (as a percent) for this situation? Use this formula:

$$R = \frac{I}{PT}$$

*In the above formula, I is the amount of interest paid, P is the amount borrowed, and T is the time in years. Note that the formula will give you a decimal (not a percent) answer.*

\_\_\_\_\_ (nearest tenth of a percent)

18.) Determine the area of a circle which has a diameter of 12.5 feet. Use this formula:

$$A = \frac{\mathbf{p} d^2}{4}$$

\_\_\_\_\_ sq ft (nearest tenth)

19.) Determine the volume of a sphere that has a radius of 3.25 inches. Use the formula:

$$V = \frac{4}{3} \mathbf{p} r^3$$

\_\_\_\_\_ cubic inches (nearest hundredth)

20.) Use the given formula to convert 75 degrees Fahrenheit to degrees Celsius.

$$C = \frac{5}{9}(F - 32)$$

\_\_\_\_\_ degrees Celsius (nearest tenth)

NAME: \_\_\_\_\_

*Formulas*  
*Quiz 2*  
*“Ratios and Proportions”*

1.) For every 15 full-sized cars rented at the airport, 40 compact cars are rented. What is the ratio of full-sized cars to compact cars? (reduced fraction form)

2.) For every 5,000 computer chips manufactured, 4 are found to have defects. What is the ratio of defective chips to the total number of chips manufactured? (reduced fraction form)

3.) Solve this proportion for  $x$ . Round your answer to the nearest tenth.

$$\frac{x}{20} = \frac{17}{50}$$

4.) Which scenario describes an inverse proportion?

- a) The larger the house, the more paint I'll need to paint it.
- b) The faster I drive (within reason!), the less time it will take to get to Madison.

5.) A state map has a scale of 1 inch = 30 miles. If two towns as represented on the map are 4.25 inches apart, how far apart are they in miles?

6.) On the last tank of gas, Ann noted that her car used 15.5 gallons of gas for 342 miles. Based on this information, how much gas will her car consume for a 550 mile trip?

\_\_\_\_\_ gallons of gas (nearest tenth)

**NAME:** \_\_\_\_\_

7.) When traveling at an average of 45 miles per hour, Roscoe can get to work in 48 minutes. If he could average 55 miles per hour, how long should it take him to get to work?

\_\_\_\_\_ minutes (nearest tenth)

8.) A factory has 8 machines that stamp metal cases for computers. In one hour these 8 machines can produce 2500 cases. If two of the machines break down, how many cases can be produced each hour?

\_\_\_\_\_ cases (nearest whole number)

9.) If 1 cubic foot of gasoline weighs 45.2 lbs, a car's 2.2 cubic foot gas tank would hold how many pounds of gas?

\_\_\_\_\_ lbs (nearest tenth)

10.) If a fifteen pack of cola costs \$4.50, how much should a six-pack of the cola cost?

\$\_\_\_\_\_ (nearest penny)