

**Unit One Review: Long Division, Exponents, and Order of Operations**

*Remember: Partial credit is granted only when work is shown and comprehensible*

**Section One: Problem Solving**

1. There are a total of 400 sixth graders. If there are 45 lunch tables in the cafeteria, how many students can sit at each lunch table? \_\_\_\_\_

2. Sam owns 456 acres of land. He wants to divide his land into 15 sections. How many whole acres will be in each section? \_\_\_\_\_

3. Bethany wants a new iPad that cost \$725. She can save \$22 each week. How many weeks of saving does she have left until she will be able to purchase the iPad?

\_\_\_\_\_

**Section Two: Exponential Notation**

4. Find the value of eight cubed. \_\_\_\_\_

5. What is the value of  $9^0$ ? \_\_\_\_\_

6. Write  $(0.35)(0.35)(0.35)(0.35)$  in exponential notation. \_\_\_\_\_

7. How would I express 49 using exponential notation and a base of 7? \_\_\_\_\_

8. Sam's home, valued at \$324,000, will increase in value according to this formula:

$$324,000 \times 1.08 \times 1.08 \times 1.08$$

How would you express this formula using exponential notation? \_\_\_\_\_

9. What is the value of  $(\frac{1}{6})^5$ ? \_\_\_\_\_

10. Find the value of  $3^5$  \_\_\_\_\_

11. Find the value of  $7^3$  \_\_\_\_\_

12. Write the expanded form of  $w^6 \cdot z^4$  \_\_\_\_\_

**Section Three: Order of Operations**

13. What is the value of the following expression? \_\_\_\_\_

$$33 + (8 - 3)^2 - 5 \cdot 3 + 7$$

14. Evaluate the following expression when  $x = 4$  and  $y = 8$  \_\_\_\_\_

$$x(6y - 3^3)$$

15. Using the correct order of operations, what should you do first? \_\_\_\_\_

$$5 \div (7 + 3) + 5 + 6 - 3$$

16. What is the value of the following expression? \_\_\_\_\_

$$(9 + 5) \div 2 + 8^2$$

17. Where would I place parenthesis in the following problem to make it true?

$$7 * 8 + 2 - 2 = 68$$

18. Using the correct order of operations, what should you do first? \_\_\_\_\_

$$4(7 + 2)^2 + (6 + 2)^2$$

19. Simplify:  $6 \cdot w \cdot 3 \cdot w^2 \cdot 2 \cdot x \cdot x^2 \cdot w^3$  \_\_\_\_\_

20. Simplify:  $\frac{24d^3 \cdot e^5}{4d^2 \cdot e^2}$  \_\_\_\_\_