

**Chapter 1 Test Review**  
**A Review of Algebra Fundamentals**

Simplify completely each of the expressions in problems 1 – 4.

1.  $\frac{5(2-5)-3^3}{(3)(-9)}$  \_\_\_\_\_

2.  $-8^2 - (5 - (-3)) + 1$  \_\_\_\_\_

3.  $\left(\frac{2}{5}\right)\left(-\frac{5}{16}\right)$  \_\_\_\_\_

4.  $\frac{-|-12|}{-3}$  \_\_\_\_\_

5. What is the reciprocal of 5? \_\_\_\_\_

6. What is the opposite of 5? \_\_\_\_\_

**Write the following numbers in scientific notation.**

7. 0.0000253 \_\_\_\_\_

8. 2,450,000 \_\_\_\_\_

**Perform the indicated operation and write your answer in scientific notation.**

9.  $(4.2 \times 10^3)(2.0 \times 10^5)$  \_\_\_\_\_

10.  $(4.2 \times 10^3) \div (2.0 \times 10^5)$  \_\_\_\_\_

**Solve each of the following equations.**

11.  $5y - 8 = 19$  \_\_\_\_\_

12.  $2x + 3 = 17 - 5x$  \_\_\_\_\_

13.  $-3(2x + 6) = 12$  \_\_\_\_\_

14.  $8x = 5 - (x - 13)$  \_\_\_\_\_

15.  $\frac{1}{2}x + 6 = \frac{3}{4} - 2x$  \_\_\_\_\_

**Solve each problem involving percents.**

16. 404 is what percent of 1010? \_\_\_\_\_

17. 12% of 80 is what number? \_\_\_\_\_

18. 6.5% of what number is 13? \_\_\_\_\_

19. 32 increased by 20% of itself is what number? \_\_\_\_\_

20. 45 is what percent more than 30? \_\_\_\_\_

**Solve each of the following word problems and be sure to show your work.**

21. A car that sold for \$15,200 had a sales tax of \$912. How much is the tax on a car that sells for \$12,000?

22. Marie is paid \$5.75 per hour for working at the RGM Manufacturing plant. Her boss informs her that she is receiving a \$0.23 per hour wage increase. What percent increase has she received?

23. McJohn's Discount store is having a moonlight madness sale. All items are 35% off the original price. If the retail price of a coffee maker is \$49.95, what is the sale price of this item? If the sales tax rate is 6%, what is the total bill for this purchase?

24. If a basketball player made 28 out of 50 free throws attempted during this season, what percent of free throws did he make?

25. Fred was making \$8.25 an hour on his job. If he gets a 5% raise, what will his new hourly rate be?