CHAPTER 1

Mid-Chapter Quiz

Lessons 1-1 through 1-4

Evaluate each expression if $a = -2$, $b = \frac{1}{3}$, and $c = -12$. (Lesson 1-1)

1. $a^3 + b(9 - c)$
2. $b(a^2 - c)$
3. $\frac{3ab}{c}$
4. $\frac{a - c}{a + c}$
5. $\frac{a^3 - c}{b^2}$
6. $\frac{c + 3}{ab}$

7. **ELECTRICITY** Find the amount of current I (in amperes) produced if the electromotive force E is 2.5 volts, the circuit resistance R is 1.05 ohms, and the resistance r within a battery is 0.2 ohm. Use the formula $I = \frac{E}{R + r}$. (Lesson 1-1)

Name the sets of numbers to which each number belongs. (Lesson 1-2)

8. 3.5
9. $\sqrt{100}$

Name the property illustrated by each equation. (Lesson 1-2)

10. $bc + (-bc) = 0$
11. $\left(\frac{4}{7}\right)\left(1\frac{3}{4}\right) = 1$
12. $3 + (x - 1) = (3 + x) + (-1)$

Name the additive inverse and multiplicative inverse for each number. (Lesson 1-2)

13. $\frac{6}{7}$
14. $-\frac{4}{3}$

15. Simplify $4(14x - 10y) - 6(x + 4y)$. (Lesson 1-2)

Write an algebraic expression to represent each verbal expression. (Lesson 1-3)

16. twice the difference of a number and 11
17. the product of the square of a number and 5

Solve each equation. Check your solution. (Lesson 1-3)

18. $-2(a + 4) = 2$
19. $2d + 5 = 8d + 2$
20. $4y - \frac{1}{10} = 3y + \frac{4}{5}$

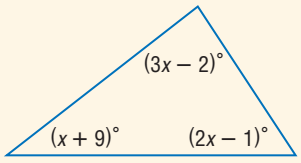
21. Solve $s = \frac{1}{2}gt^2$ for g. (Lesson 1-3)

22. **MULTIPLE CHOICE** Karissa has \$10 per month to spend text messaging on her cell phone. The phone company charges \$4.95 for the first 100 messages and \$0.10 for each additional message. How many text messages can Karissa afford to send each month? (Lesson 1-3)

A 50 **C** 150

B 100 **D** 151

23. **GEOMETRY** Use the information in the figure to find the value of x. Then state the degree measures of the three angles of the triangle. (Lesson 1-3)



Solve each equation. Check your solutions. (Lesson 1-4)

24. $|a + 4| = 3$
25. $|3x + 2| = 1$
26. $|3m - 2| = -4$
27. $|2x + 5| - 7 = 4$
28. $|h + 6| + 9 = 8$
29. $|5x - 2| - 6 = -3$

30. **CARNIVAL GAMES** Julian will win a prize if the carnival worker cannot guess his weight to within 3 pounds. Julian weighs 128 pounds. Write an equation to find the highest and lowest weights that the carnival guesser can guess to keep Julian from winning a prize. (Lesson 1-4)