NAME _____ DATE _____ PERIOD _____

1-3 Skills Practice
Solving Equations

Write an algebraic expression to represent each verbal expression.

1. 4 times a number, increased by 7

2. 8 less than 5 times a number

3. 6 times the sum of a number and 5

4. the product of 3 and a number, divided by 9

5. 3 times the difference of 4 and a number

6. the product of –11 and the square of a number

Write a verbal sentence to represent each equation.

7. $n - 8 = 16$

8. $8 + 3x = 5$

9. $b + 3 = b^2$

10. $\frac{y}{3} = 2 - 2y$

Name the property illustrated by each statement.

11. If $a = 0.5b$, and $0.5b = 10$, then $a = 10$.

12. If $d + 1 = f$, then $d = f - 1$.

13. If $-7x = 14$, then $14 = -7x$.

14. If $(8 + 7)r = 30$, then $15r = 30$.

Solve each equation. Check your solution.

15. $4m + 2 = 18$

16. $x + 4 = 5x + 2$

17. $3t = 2t + 5$

18. $-3b + 7 = -15 + 2b$

19. $-5x = 3x - 24$

20. $4v + 20 - 6 = 34$

21. $a - \frac{2a}{5} = 3$

22. $2.2n + 0.8n + 5 = 4n$

Solve each equation or formula for the specified variable.

23. $I = prt$, for p

24. $y = \frac{1}{4}x - 12$, for x

25. $A = \frac{x + y}{2}$, for y

26. $A = 2\pi r^2 + 2\pi rh$, for h

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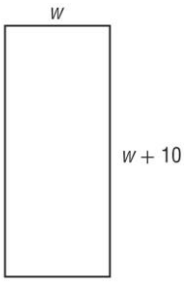
1-3 Word Problem Practice
Solving Equations

1. AGES Robert's father is 5 years older than 3 times Robert's age. Let Robert's age be denoted by R and let Robert's father's age be denoted by F. Write an equation that relates Robert's age and his father's age.

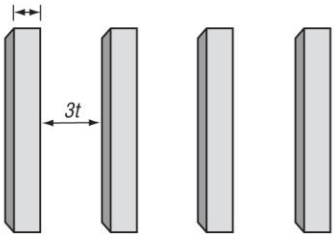
2. AIRPLANES The Citation Sovereign is a small jet that can carry up to 2650 pounds. The number of passengers p and the number of suitcases c that the airplane can carry are estimated by the equation $180p + 60c = 2650$. If 10 people board the aircraft, how many suitcases can the airplane carry?

3. GEOMETRY The length of a rectangle is 10 units longer than its width. If the total perimeter of the rectangle is 44 units, what is the width?



4. SAVINGS Jason started with d dollars in his piggy bank. One week later, Jason doubled the amount in his piggy bank. Another week later, Jason was able to add \$20 to his piggy bank. At this point, the piggy bank had \$50 in it. What is d?

5. DOMINOES Nancy is setting up a train of dominos from the front entrance straight down the hall to the kitchen entrance. The thickness of each domino is t. Nancy places the dominoes so that the space separating consecutive dominoes is $3t$. The total distance that N dominoes takes up is given by $d = t(4N + 1)$.



a. Nancy measures her dominoes and finds that $t = 1$ centimeter. She measures the distance of her hallway and finds that $d = 321$ centimeters. Rewrite the equation that relates d, t, and N with the given values substituted for t and d.

b. How many dominoes did Nancy have in her hallway?