Name_____ Date _____

1.5 Practice A

In Exercises 1–6, solve the literal equation for *y*.

1. $4x + y = 7$

2. $y - 5x = 9$

3. $3y - 15x = 12$

4. $8x + 2y = 18$

5. $7x - y = 35$

6. $4x + 1 = 9 + 4y$

In Exercises 7–12, solve the literal equation for *x*.

7. $y = 5x - 2x$

8. $r = x + 9x$

9. $b = 3x + 9xy$

10. $w = 2hx - 11x$

11. $p = 4x + qx - 5$

12. $m = 9 + 3x - dx$

13. The total cost C (in dollars) to participate in a triathlon series is given by the literal equation $C = 90x + 35$, where x is the number of triathlons in which you participate.

a. Solve the equation for x.

b. In how many triathlons do you participate if you spend a total of \$305? \$665?

c. If your maximum annual triathlon cost is \$1000, what is the maximum number of triathlons in which you could participate?

In Exercises 14–16, solve the formula for the indicated variable.

14. Force: $f = ma$; Solve for m.

15. Volume of a cylinder: $V = \pi r^2 h$; Solve for h.

16. Perimeter of a triangle: $P = a + b + c$; Solve for b.

17. You deposit \$1500 in an account that earns simple interest at an annual rate of 3%.

a. How long must you leave the money in the account to earn \$900 in interest?

b. The total amount (principle plus interest) in an account earning simple interest after t years is given by the formula $A = p + prt$. How much is in the account after 5 years?

c. Solve the equation in part (b) for p.

Name _____ Date _____

1.5 Practice B

In Exercises 1–6, solve the literal equation for *y*.

1. $3y - 9x = 24$

2. $10 - 2y = 46$

3. $3x + 5 = 9 - 4y$

4. $-5x + 7y = 8x + 7$

5. $3 + \frac{1}{5}y = 2x + 4$

6. $10 - \frac{1}{3}y = 4 + 6x$

In Exercises 7–14, solve the literal equation for *x*.

7. $g = 4x + 5xy$

8. $w = 4ax - 9x$

9. $z = 6x + px + 2$

10. $t = 10 + 7x - qx$

11. $ax - bx = k$

12. $p = qx + rx + s$

13. $11 - 4x - 3jx = w$

14. $x - 8 + 3vx = y$

15. Describe and correct the error in solving the equation for x.

$$k = ax + bx + d$$
$$k = x(a + b + d)$$
$$x = \frac{k}{a + b + d}$$

In Exercises 16–18, solve the equation for the indicated variable.

16. Simple interest: $I = prt$; Solve for r.

17. Volume of a box: $V = lwh$; Solve for w.

18. Heron's formula: $2S = a + b + c$; Solve for b.

19. Coulomb's Law is given by the formula

$$F = k\frac{q_1 q_2}{d^2}.$$

The force F between two charges q_1 and q_2 in a vacuum is proportional to the product of the charges, and is inversely proportional to the square of the distance d between the two charges. Solve the formula for k.

20. You deposit \$800 in an account that earns simple interest at an annual rate of 5%. How long must you leave the money in the account to earn \$100 in interest?