Name _____ Class _____ Date _____

Practice 1-3

Solving Equations

Solve each formula for the indicated variable.

1. $V = \frac{\pi}{3} r^2 h$, for h

2. $S = L(1 - r)$, for r

3. $S = \ell w + wh + \ell h$, for w

Solve for x. State any restrictions on the variables.

4. $\frac{4}{9}(x + 3) = g$

5. $a(x + c) = b(x - c)$

6. $\frac{x + 3}{t} = t^2$

7. Two brothers are saving money to buy tickets to a concert. Their combined savings is \$55. One brother has \$15 more than the other. How much has each saved?

8. The sides of a triangle are in the ratio 5 : 12 : 13. What is the length of each side of the triangle if the perimeter of the triangle is 15 in.?

9. Find three consecutive numbers whose sum is 126.

Solve each equation.

10. $\frac{1}{2}(x - 3) + \left(\frac{3}{2} - x\right) = 5x$

11. $5w + 8 - 12w = 16 - 15w$

12. $7y + 5 = 6y + 11$

13. $1.2(x + 5) = 1.6(2x + 5)$

14. $t - 3\left(t + \frac{4}{3}\right) = 2t + 3$

15. $0.5(c + 2.8) - c = 0.6c + 0.3$

16. $3(x + 1) = 2(x + 11)$

17. $\frac{u}{5} + \frac{u}{10} - \frac{u}{6} = 1$

18. Mike and Adam left a bus terminal at the same time and traveled in opposite directions. Mike's bus was in heavy traffic and had to travel 20 mi/h slower than Adam's bus. After 3 hours, their buses were 270 miles apart. How fast was each bus going?

19. Two trains left a station at the same time. One traveled north at a certain speed and the other traveled south at twice the speed. After 4 hours, the trains were 600 miles apart. How fast was each train traveling?

20. Find four consecutive odd integers whose sum is 336.

21. The length of a rectangle is 5 cm greater than its width. The perimeter is 58 cm. Find the dimensions of the rectangle.