Chapter Test

ADDITIONAL

• **Chapter 3 Res**
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  SAT/ACT Cha
  Alternative As

• ⊞ **Test and I**

Solve the equation if possible.

1. $2 + x = 8$ 6

2. $19 = a - 4$ 23

3. $-3y = -18$ 6

4. $\frac{x}{4} = 5$ 20

5. $17 = 5 - 3p$ −4

6. $-\frac{3}{4}x - 2 = -8$ 8

7. $\frac{5}{3}(9 - w) = -10$ 15

8. $-3(x - 2) = x$ $1\frac{1}{2}$

9. $-5r - 6 + 4r = -r + 2$ no solution

10. $-4y - (5y + 6) = -7y + 3$ $-4\frac{1}{2}$

Solve the equation. Round the result to the nearest hundredth.

11. $13.2x + 4.3 = 2(2.7x - 3.6)$ −1.47

12. $-4(2.5x + 8.7) = (1.4 - 9.2x)(6)$ 0.96

In Exercises 13 and 14, solve for the indicated variable.

13. $C = 2\pi r, r$ $r = \frac{C}{2\pi}$

14. $S = B + \frac{1}{2}Pl, l$ $l = \frac{2(S - B)}{P}$

15. Rewrite $3x + 4y = 15 + 6y$ so that y is a function of x. $y = \frac{3}{2}x - \frac{15}{2}$

16. Use the result in Exercise 15 to find y when $x = -1, 0,$ and 2. $-9, -7\frac{1}{2}, -4\frac{1}{2}$

17. How many feet are in 3.5 kilometers? (Hint: 1 km ≈ 3281 ft)   approximately 11,483.5 ft

18. 🎿 **SHOVELING SNOW** You shovel snow. You charge $7 per driveway and earn $42. Let x represent the number of driveways you shoveled. Which of the following equations is an algebraic model for the situation?   C

A. $42x = 7$ **B.** $\frac{1}{7}x = 42$ **C.** $7x = 42$ **D.** $\frac{1}{42}x = 7$

🪙 **EARNINGS In Exercises 19 and 20, your cousin earns about $25 per week baby-sitting and receives one $5 bonus. You earn about $15 per week mowing lawns and $12 per week running errands. After working the same number of weeks, you have $11 more than your cousin.**

19. Write and solve an equation to find how many weeks you worked.
   Sample equation: $25x + 5 = 15x + 12x - 11$; 8 weeks

20. Check your solution in Exercise 19 with a table or a graph.
   Check graphs and tables.

21. 💰 **SAVINGS INTEREST** You invest $400. After one year, the total of the investment is $414.40. Use the formula $A = P + Prt$ to find the annual simple interest rate for the investment, where A is the total of the investment, P is the principal (amount invested), r is the annual simple interest rate, and t is the time in years.   3.6%

In Exercises 22 and 23, write and solve an equation to answer the question.

22. 📮 **VOLUNTEER WORK** You stuffed 108 envelopes in 45 minutes. At this rate, how many envelopes can you stuff in 2 hours?   288 envelopes

23. 💵 **WAGES** After an 8% increase in your wages, you receive $.94 more per hour. About how much did you receive per hour before the increase in your wages? $11.75