

Name \_\_\_\_\_

Date \_\_\_\_\_

### Additional Exercises 1.1

#### Form I

#### Introduction to Algebra: Variables and Mathematical Models

Evaluate each expression for  $x = 3$ .

1.  $4 + 3x$  1. \_\_\_\_\_

2.  $5(2 - x)$  2. \_\_\_\_\_

Evaluate each expression for  $x = 4$  and  $y = 6$ .

3.  $5x - y$  3. \_\_\_\_\_

4.  $2x + 4y$  4. \_\_\_\_\_

5.  $6(y - x)$  5. \_\_\_\_\_

In exercises 6 – 10, translate each English phrase to an algebraic expression. Let the variable  $x$  represent the number.

6. Twelve more than a number. 6. \_\_\_\_\_

7. The difference of a number and nine. 7. \_\_\_\_\_

8. Six times a number increased by fifteen. 8. \_\_\_\_\_

9. The quotient of twice a number and seven. 9. \_\_\_\_\_

10. The sum of three times a number and five. 10. \_\_\_\_\_

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11. Is 15 a solution to the equation  $y + 16 = 21$ ? 11. \_\_\_\_\_

12. Is 4 a solution to the equation  $3x - 12 = 0$ ? 12. \_\_\_\_\_

13. Is 10 a solution to the equation  $25 - 2y = 13$ ? 13. \_\_\_\_\_

14. Is 8 a solution to the equation  $5x = 40$ ? 14. \_\_\_\_\_

15. Is 30 a solution to  $2x + 5 = 3x - 25$ ? 15. \_\_\_\_\_

Translate each sentence to an equation. Let the variable  $x$  represent the number.

16. Six times a number is forty-two. 16. \_\_\_\_\_

17. The product of a number and three is twenty-four. 17. \_\_\_\_\_

18. The difference of a number and eight is equal to three times the number. 18. \_\_\_\_\_

19. Fourteen less than a number is 15. 19. \_\_\_\_\_

20. The quotient of a number and ten is equal to four. 20. \_\_\_\_\_

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### Additional Exercises 1.1

#### Form II

#### Introduction to Algebra: Variables and Mathematical Models

Evaluate each expression for  $x = 5$ .

1.  $5x - 14$

1. \_\_\_\_\_

2.  $3(x - 2)$

2. \_\_\_\_\_

Evaluate each expression for  $x = 7$  and  $y = 8$ .

3.  $3x - 2y$

3. \_\_\_\_\_

4.  $5(x + 2y)$

4. \_\_\_\_\_

5.  $\frac{6x + 6y}{x + y}$

5. \_\_\_\_\_

In exercises 6 – 10, translate each English phrase to an algebraic expression. Let the variable  $x$  represent the number.

6. A number less ten.

6. \_\_\_\_\_

7. The quotient of a number and sixteen.

7. \_\_\_\_\_

8. Four more than five times a number.

8. \_\_\_\_\_

9. Seven times a number increased by eight.

9. \_\_\_\_\_

10. Twice the sum of a number and seventeen.

10. \_\_\_\_\_

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In exercises 11-15, determine whether the given number is a solution of the equation.

11.  $2x - 7 = 3$ ; 5 11. \_\_\_\_\_

12.  $4(x - 3) = 44$ ; 14 12. \_\_\_\_\_

13.  $5(x + 3) - 2x = 31$ ; 8 13. \_\_\_\_\_

14.  $3x - 14 = 2x + 28$ ; 20 14. \_\_\_\_\_

15.  $2x + \frac{9}{x} = 9$ ; 3 15. \_\_\_\_\_

Translate each sentence to an equation. Let the variable  $x$  represent the number.

16. A number increased by seventeen is forty. 16. \_\_\_\_\_

17. Twice a number increased by thirteen is equal to fifty-nine. 17. \_\_\_\_\_

18. The quotient of a number and sixteen is the same as forty-eight. 18. \_\_\_\_\_

19. Eight less than a number equals twelve. 19. \_\_\_\_\_

20. Four times the sum of a number and nine is fifty-four. 20. \_\_\_\_\_

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### Additional Exercises 1.1

#### Form III

#### Introduction to Algebra: Variables and Mathematical Models

Evaluate each expression for  $x = 6$ .

1.  $3(2x + 4)$  1. \_\_\_\_\_

2.  $\frac{5x + 18}{2x}$  2. \_\_\_\_\_

Evaluate each expression for  $x = 8$  and  $y = 12$ .

3.  $5x - 3y$  3. \_\_\_\_\_

4.  $2(x + y) + 4x - 3y$  4. \_\_\_\_\_

5.  $\frac{6x + 3y}{2x + y}$  5. \_\_\_\_\_

In exercises 6 – 10, translate each English phrase to an algebraic expression. Let the variable  $x$  represent the number.

6. The difference of three times a number and nine. 6. \_\_\_\_\_

7. Twice the sum of a number and thirty-two. 7. \_\_\_\_\_

8. The quotient of a number and eight increased by twice the number. 8. \_\_\_\_\_

9. Twice a number decreased by sixty-three. 9. \_\_\_\_\_

10. Fourteen less than a number. 10. \_\_\_\_\_

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In exercises 11-13, determine whether the given number is a solution of the equation.

11. Is 9 a solution to the equation  $6(x - 4) = 30$ ? 11. \_\_\_\_\_

12. Is 15 a solution to the equation  $3x - (x - 6) = 24$ ? 12. \_\_\_\_\_

13. Is 6 a solution to the equation  $\frac{18}{x} - (14 - 2x) = 1$ ? 13. \_\_\_\_\_

Translate each sentence to an equation. Let the variable  $x$  represent the number.

14. Twice the difference of a number and eighteen is four. 14. \_\_\_\_\_

15. The quotient of three times a number and fifteen is equal to twice the number less seven. 15. \_\_\_\_\_

16. Twenty-one less than a number equals twelve. 16. \_\_\_\_\_

17. Three times the sum of ten and a number is forty-five. 17. \_\_\_\_\_

18. The produce of a number and 6, increased by 11, is 35. 18. \_\_\_\_\_

The formula  $n = T - h$  can be used to find a golfer's net score,  $n$ , where  $T$ , represents the total number of strokes and  $h$ , represents the golfer's handicap. Use this formula to answer 19 and 20.

19. Find a golfer's net score if he shoots a 104 and has a handicap of 19. 19. \_\_\_\_\_

20. Find a golfer's handicap if he shoots an 86 but has a net score of 79. 20. \_\_\_\_\_