Lesson 3 Homework Practice

Variables and Expressions

Translate each phrase into an algebraic expression.

1. six times a number minus eleven

2. the product of eight hundred and a number

3. the quotient of thirty and the product of ten times a number

4. five times the sum of three and some number

5. half the distance to the school

Evaluate each expression if \( x = 12, \ y = 20, \) and \( z = 4. \)

6. \( x + y + z \)

7. \( 4x - y \)

8. \( 3x + 2y \)

9. \( y - 3z \)

10. \( x + y \div z \)

11. \( yz + x \)

12. \( (y - x) + (y - z) \)

13. \( \frac{y}{z} + \frac{x}{z} \)

14. \( \frac{5x}{3y} \)

Evaluate each expression if \( a = 3, \ b = 6, \ c = 5, \) and \( d = 9. \)

15. \( a + b + c + d \)

16. \( \frac{a + b + c}{2} \)

17. \( ab + bc \)

18. \( 6d - c \cdot c \)

19. \( 3(a + b + c) \)

20. \( \frac{100}{5c} \)

21. \( abc \)

22. \( 10(6c - 3d) \)

23. \( \frac{2(a + b)}{6(b - c)} \)

24. In order to encourage recycling, the city is offering five cents for every pound of newspapers collected, twenty-five cents per pound for cans, and ten cents per pound for glass bottles or jars.

   a. Write an expression for the total amount earned from recycling.

   b. If Chen brings in ten pounds of newspapers, eight pounds of cans, and two pounds of glass, how much will he receive?