

Writing and Evaluating Expressions Assignment

Write an algebraic expression for the word expression.

1. The quotient of y and 14
2. The sum of 15 and the product of 5 and z
3. Twice a number increased by 13.
4. The sum of 7 and the product of 2 and x
5. 16 decreased by x
6. A number x divided by 4

Write the word expression for each algebraic expression.

7. $x - 6$
8. $c - 4$
9. $k^3 + 5$
10. $3k^2$
11. $2a + 6$
12. $\frac{x + 4}{3}$ or $(x + 4) \div 3$

Write an expression to match the words.

13. Alan had 9 fish and bought some more.
14. Represent the total number of calories in x peanuts and y potato chips if each peanut contains 5 calories and each potato chip contains 10 calories.
15. Karen spent \$300 on jacket and jeans. If she spent y dollars for the jacket, represent the amount she spent for the jeans.
16. If a plane travel **600** kilometers per hour, represent the distance it will travel in k hours.

Writing and Evaluating Expressions Assignment

Use a bar model to represent each expression.

17. $x + 5$

18. $\frac{y}{4}$

Evaluate each expression for the given values of the variable.

19. $65 - (x - y) =$

$x = 25$ $y = 12$

20. $5k + j^2(72 - 3k) =$

$k = 15$ $y = 10$

21. $\frac{2x + 3y}{10} - (4x - 3y) =$
 $x = 15$ $y = 10$

22. $3a + 4b - (a + b)^2 =$
 $a = 10$ $b = 6$

Writing and Evaluating Expressions Assignment

ANSWERS

Write an algebraic expression for the word expression.

1. The quotient of y and 14 2. The sum of 15 and the product of 5 and z 3. Twice a number increased by 13.

$$\frac{y}{14} \text{ or } y \div 14$$

$$15 + 5z$$

$$2h + 13$$

4. The sum of 7 and the product of 2 and x 5. 16 decreased by x 6. A number x divided by 4

$$7 + 2x$$

$$16 - x$$

$$\frac{x}{4} \text{ or } x \div 4$$

Write the word expression for each algebraic expression.

7. $x - 6$

8. $c - 4$

9. $k^3 + 5$

The **difference** of a number x and 6

A number c **take away** 4

k cubed **increased by** 5

10. $3k^2$

11. $2a + 6$

12. $\frac{x+4}{3}$ or $(x+4) \div 3$

3 **times** k squared

6 **more than** the **product** 2 times a

The **sum** of a number x and 4, all **divided by** 3

Write an expression to match the words.

13. Alan had 9 fish and bought some more.

y – *number of new fish*

Total numbers of fish

$$9 + y$$

14. Represent the total numbers of calories in x peanuts and y potato chips if each peanut contains 5 calories and each potato chip contains 10 calories.

x – *number of peanuts*

y – *number of potato chips*

Total calories

$$5x + 10y$$

15. Karen spent \$300 for jacket and jeans. If she spent y dollars for the jacket, represent the amount she spent for the jeans.

y – *dollars for jacket*

Dollars for jeans

$$300 - y$$

Writing and Evaluating Expressions Assignment

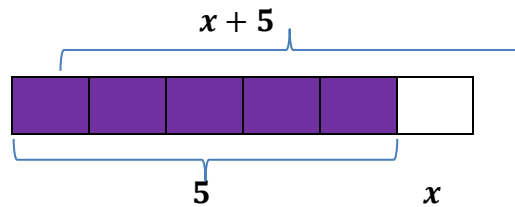
16. If a plane travel **600** kilometers per hour, $k = \text{travelling time}(h)$ represent the distance it will travel in k hours.

Distance (km)

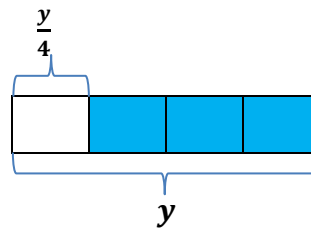
600 * k

Use a bar model to represent each expression.

17. $x + 5$



18. $\frac{y}{4}$



Evaluate each expression for the given values of the variable.

19. $65 - (x - y) =$

$x = 25 \quad y = 12$

$$\begin{aligned} 65 - (x - y) &= \\ &= 65 - (25 - 12) = \\ &= 65 - 13 = \\ &= \mathbf{52} \end{aligned}$$

20. $5k + j^2(72 - 3k) =$

$k = 15 \quad y = 10$

$$\begin{aligned} 5k + j^2(72 - 3k) &= \\ &= 5 * 15 + 10^2(72 - 3 * 15) = \\ &= 75 + 100 * (72 - 45) = \\ &= 75 + 100 * 27 = \\ &= 75 + 2,700 = \\ &= \mathbf{2,775} \end{aligned}$$

Writing and Evaluating Expressions Assignment

21. $\frac{2x + 3y}{10} - (4x - 3y) =$
 $x = 15 \quad y = 10$

$$\begin{aligned} & \frac{2x + 3y}{10} - (4x - 3y) = \\ & = \frac{2 * 15 + 3 * 10}{10} - (4 * 15 - 3 * 10) = \\ & = \frac{30 + 30}{10} - (60 - 30) = \\ & = \frac{60}{10} - 30 = \\ & = 6 - 30 = \\ & = -24 \end{aligned}$$

22. $3a + 4b - (a + b)^2 =$
 $a = 10 \quad b = 6$

$$\begin{aligned} & 3a + 4b - (a + b)^2 = \\ & = 3 * 10 + 4 * 6 - (10 + 6)^2 = \\ & = 30 + 24 - (16)^2 = \\ & = 30 + 24 - 256 = \\ & = 54 - 256 = \\ & = -202 \end{aligned}$$