

Variables and Expressions Assignment

Find the value of each numerical expression. Follow the order of operations when finding each value.

1. $25 \div 5 - 4 =$ 2. $216 \div 6 + 4 * 2 =$ 3. $144 \div 12 + (12 - 8) =$

Find the terms, constant/s and coefficient/s for each expression.

4. $6x + 4y + 123 =$ 5. $k + 7l + 2 =$ 6. $12 + z =$

Terms:
Variables:
Constant:
Coefficients:

Terms:
Variables:
Constant:
Coefficients:

Terms:
Variable:
Constant:
Coefficient:

7. $x + y =$ 8. $12a + b + 13 =$ 9. $g + 15j + 13z =$

Terms:
Variables:
Constant:
Coefficients:

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Terms:
Variable:
Constant:
Coefficients:

Write an algebraic expression for each verbal phrase.

10. x increased by 8

11. the product of x and 10

12. the quotient of 24 and 6

13. z decreased by 23

14. The sum of n and 12, divided by 5

15. 6 more than 6 times a number

Variables and Expressions Assignment

Write each as a verbal expression.

16. $19 - 14$

17. $\frac{x}{2}$

18. $x \div 14$

19. $2a$

20. $a + 122$

21. $12k$

Evaluate each expression using the values given.

22. $2x + 3y$ when $x = 8$ and $y = 4$

23. $a - 4b$ when $a = 17$ and $b = 3$

24. $12x - (y + 10)$ when $x = 10$ and $y = 16$

25. $\frac{121}{x} - \frac{16}{y}$ when $x = 11$ and $y = 8$

Name: _____ Period: _____ Date: _____

Variables and Expressions Assignment

Write an algebraic expression for each problem.

26. Jessica had x books. Then she went to a book sale and bought 12 more books. Choose the expression that shows how many books Jessica has now.
27. There were x birds on the tree. 22 of the birds flew away. Choose the expression that shows how many birds are on the tree now.
28. John has y cookies. He splits them evenly among 13 bags. Choose the expression that shows how many cookies are in each bag.

Variables and Expressions Assignment

ANSWERS

Find the value of each numerical expression. Follow the order of operations when finding each value.

1. $25 \div 5 - 4 =$ 2. $216 \div 6 + 4 * 2 =$ 3. $144 \div 12 + (12 - 8) =$

$$\begin{aligned} 25 \div 5 - 4 &= \\ &= 5 - 4 = \\ &= \mathbf{1} \end{aligned}$$

$$\begin{aligned} 216 \div 6 + 4 * 2 &= \\ &= 36 + 8 = \\ &= \mathbf{44} \end{aligned}$$

$$\begin{aligned} 144 \div 12 + (12 - 8) &= \\ &= 12 + 4 = \\ &= \mathbf{16} \end{aligned}$$

Find the terms, constant/s and coefficient/s for each expression.

4. $6x + 4y + 123 =$

Terms: $6x, 4y, 123$
Variables: x, y
Constant: 123
Coefficients: $6, 4$

5. $k + 7l + 2 =$

Terms: $k, 7l, 2$
Variables: k, l
Constant: 2
Coefficients: $1, 7$

6. $12 + z =$

Terms: $12, z$
Variable: z
Constant: 12
Coefficient: 1

7. $x + y =$

Terms: x, y
Variables: x, y
Constant: none
Coefficients: $1, 1$

8. $12a + b + 13 =$

Terms: $12a, b, 13$
Variables: a, b
Constant: 13
Coefficients: $12, 1$

9. $g + 15j + 13z =$

Terms: $g, 15j, 13z$
Variable: g, j, z
Constant: none
Coefficients: $1, 15, 13$

Write an algebraic expression for each verbal phrase.

10. x increased by 8

$x + 8$

11. the product of x and 10

$x * 10$

12. the quotient of 24 and 6

$\frac{24}{6}$

13. z decreased by 23

$z - 23$

14. The sum of n and 12, divided by 5

$(n + 12) \div 5$

15. 6 more than 6 times a number

$6 + 6k$

Variables and Expressions Assignment

Write each as a verbal expression.

16. $19 - 14$

the difference of 19 and 14

17. $\frac{x}{2}$

half of x

18. $x \div 14$

x divided by 14

19. $2a$

twice a

20. $a + 122$

a increased by 122

21. $12k$

12 times a number

Evaluate each expression using the values given.

22. $2x + 3y$ when $x = 8$ and $y = 4$

$$\begin{aligned} 2x + 3y &= \\ 2 * 8 + 3 * 4 &= \\ = 16 + 12 &= \\ = 28 & \end{aligned}$$

23. $a - 4b$ when $a = 17$ and $b = 3$

$$\begin{aligned} a - 4b &= \\ = 17 - 4 * 3 &= \\ = 17 - 12 &= \\ = 5 & \end{aligned}$$

24. $12x - (y + 10)$ when $x = 10$ and $y = 16$

$$\begin{aligned} 12x - (y + 10) &= \\ = 12 * 10 - (16 + 10) &= \\ = 120 - 26 &= \\ = 94 & \end{aligned}$$

25. $\frac{121}{x} - \frac{16}{y}$ when $x = 11$ and $y = 8$

$$\begin{aligned} \frac{121}{x} - \frac{16}{y} &= \\ = \frac{121}{11} - \frac{16}{8} &= \\ = 11 - 2 &= \\ = 9 & \end{aligned}$$

Variables and Expressions Assignment

Write an algebraic expression for each problem.

26. Jessica had x books. Then she went to a book sale and bought 12 more books. Choose the expression that shows how many books Jessica has now.

$x + 12$

27. There were x birds on the tree. 22 of the birds flew away. Choose the expression that shows how many birds are on the tree now.

$x - 22$

28. John has y cookies. He splits them evenly among 13 bags. Choose the expression that shows how many cookies are in each bag.

$y \div 13$