

Solving Algebraic Expressions

1. Evaluate the following algebraic expressions.

- a. $7a + 11 - 4a$ if $a = 6$
- b. $3b + 4 - 8$ if $b = 3$
- c. $8c + 17 - 5c$ if $c = 5$
- d. $x - 25 \div y$ if $x = 30, y = 5$
- e. $9n \div 3 - 6m + 7$ if $n = 6, m = 2$
- f. $5 + (x - 7) \div (y - 7)$ if $x = 12, y = 13$

Solution:

- a.
- b.
- c.
- d.
- e.
- f.

2. Write an algebraic expression using a variable. State what that variable represents.

- a. Steve's height is twice of Grace's height.
- b. The boys in the class is three more than four times the number of girls.
- c. Half a number plus five is eleven.
- d. Lakers scored 6 more than twice the points of Nets in the first quarter.
- e. Helena put all her marbles in 4 bags with m marbles in each bag. She had 3 marbles leftover that didn't fit in the bag.

Solution:

- a.
- b.
- c.
- d.
- e.

3. Solve the value of the variable in the given expression.

- a. $4a \div 8 = 4$
- b. $24 - 3n = 12$
- c. $35 - p \div 7 = 32$
- d. $5b + 9 - 6b = 4$
- e. $65 - 3s = 31 \times 2s$
- f. $m + 21 = 22m$
- g. $a \div 4 - 6 = 5 - 3$

Solution:

- a.
- b.
- c.
- d.
- e.
- f.
- g.

4. Julie has \$50, which is eight dollars more than twice what John has. How much does John have?

Solution:

5. A class of 50 students is divided into two groups, one group has eight less than the other. How many are in each group?

- a. 21 & 29
- b. 19 & 31
- c. 30 & 20
- d. 25 & 25

Solution:

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Answer Key

1.

- a. 29
- b. 5
- c. 32
- d. 25
- e. 13
- f. $5\frac{5}{6}$

2.

- a. $2t$ (t = Grace's height)
- b. $4s + 3$ (s = number of girls in class)
- c. $\frac{1}{2}m + 5 = 11$ (m = the number being divided)
- d. $2n + 6$ (n = Nets' points in first quarter)
- e. $4m + 3$ (m = number of marbles in each bag)

3.

- a. $a = 8$
- b. $n = 4$
- c. $p = 21$
- d. $b = 5$
- e. $s = 1$
- f. $m = 1$
- g. $a = 32$

4. \$21

5. A