

Solving Equations Assignment

Solve the following equations.

1) $2(2x + 10) = 40$

2) $-5(2x + 5) + 5 = 15$

3) $2(8 + 7) = 5(3x)$

4) $\frac{2(7x - 14)}{7} = 7$

5) $-(n - 5) + 3(n + 2) = 4(n - 3) - 1$

6) $\frac{3}{6}y - \frac{1}{6} = \frac{2}{6}$

7) $2 - \frac{x}{4} = \frac{x}{4} + 1$

8) $\frac{3 + x}{2} = \frac{x + 1}{3}$

Solving Equations Assignment**Solve the following problems:**

- 1) When you got your car fixed, the cost for parts was \$75. The cost for labor was \$45 per hour. If the total cost was \$255. Find the number of hours.
- 2) The length of a rectangle is twice its breadth. If the perimeter is 72 meter, find the length and breadth of the rectangle.
- 3) Robert's father is 4 times as old as Robert. After 5 years, father will be three times as old as Robert. Find their present ages.
- 4) The three angles in a triangle are in the ratio of 2:3:4. Find the measure of each angle.

Solve the following equations for the given variable:

1) $V = x \times y \times z$, for x .

2) $a = \frac{b+c}{3}$, for c .

3) $E = m \cdot c^2$, for c .

4) $V = \pi \cdot r^2 \cdot h$, for r .

Solving Equations Assignment

Solve the following equations.

1) $2(2x + 10) = 40$

$$4x + 20 = 40$$

$$4x = 20$$

$$x = 5$$

2) $-5(2x+5)+5=15$

$$-10x - 25 + 5 = 15$$

$$-10x = 35$$

$$x = -3.5$$

3) $2(8+7)=5(3x)$

$$30 = 15x$$

$$x = 2$$

4) $\frac{2(7x-14)}{7} = 7$

$$14x - 28 = 49$$

$$14x = 77$$

$$x = 5.5$$

5) $-(n-5) + 3(n+2) = 4(n-3) - 1$

$$-n + 5 + 3n + 6 = 4n - 12 - 1$$

$$2n + 11 = 4n - 13$$

$$24 = 2n$$

$$n = 12$$

Solving Equations Assignment

6) $\frac{3}{6}y - \frac{1}{6} = \frac{2}{6}$

$$\frac{3}{6}y = \frac{2}{6} + \frac{1}{6}$$

$$\frac{3}{6}y = \frac{3}{6}$$

$$y = 1$$

7) $2 - \frac{x}{4} = \frac{x}{4} + 1$

$$2 + 1 = \frac{x}{4} + \frac{x}{4}$$

$$3 = \frac{2x}{4}$$

$$12 = 2x$$

$$x = 6$$

8) $\frac{3+x}{2} = \frac{x+1}{3}$

Using cross multiplication

$$3 \times (3+x) = 2 \times (x+1)$$

$$9 + 3x = 2x + 2$$

$$x = -7$$

Solving Equations Assignment

Solve the following problems:

- 1) When you got your car fixed, the cost for parts was \$75. The cost for labor was \$45 per hour. If the total cost was \$255. Find the number of hours.

$$45x + 75 = 255$$

$$45x = 180$$

$$x = 4 \text{ hours}$$

- 2) The length of a rectangle is twice its breadth. If the perimeter is 72 meter, find the length and breadth of the rectangle.

Assume that the width is x .

The length is $2x$

$$2(2x + x) = 72$$

$$6x = 72$$

$$x = 12$$

Length = 24.

Width = 12.

- 3) Robert's father is 4 times as old as Robert. After 5 years, father will be three times as old as Robert. Find their present ages.

Let Robert's age be x years.

Then Robert's father's age = $4x$

After 5 years, Robert's age = $x + 5$

Father's age = $4x + 5$

According to the question,

$$4x + 5 = 3(x + 5)$$

Solving Equations Assignment

$$4x + 5 = 3x + 15$$

$$4x - 3x = 15 - 5$$

$$x = 10$$

$$4x = 4 \times 10 = 40$$

- 4) The three angles in a triangle are in the ratio of 2:3:4. Find the measure of each angle.

Let the ratio = x

As in the triangle, sum of all the three angles = 180°

$$2x + 3x + 4x = 180$$

$$9x = 180$$

$$x = 20$$

Each angle,

$$2x = 2(20) = 40^\circ$$

$$3x = 3(20) = 60^\circ$$

$$4x = 4(20) = 80^\circ$$

Solve the following equations for the given variable:

1) $V = x \times y \times z$, for x

$$x = \frac{V}{y \times z}$$

Solving Equations Assignment

2) $a = \frac{b+c}{3}$, for c .

$$3a = b + c$$

$$c = 3a - b$$

3) $E = m \times c^2$, for c .

$$\frac{E}{m} = c^2$$

Take square root of both sides

$$\sqrt{\frac{E}{m}} = c$$

4) $V = \pi \times r^2 \times h$, for r .

$$\frac{V}{\pi \times h} = r^2$$

Take square root of both sides

$$\sqrt{\frac{V}{\pi \times h}} = r$$