**Solve the following equations.**

1. 2(2x + 10) = 40
2. 
3. 
4. 
5. -(n - 5) + 3(n + 2) = 4(n - 3) - 1
6. 

**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:**

**Solve the following equations.**

1. 2(2x + 10) = 40

4x + 20 = 40

4x = 20

x = 5

1. 

10x 25 + 5 = 15

10x = 35

x = 3.5

1. 

30 = 15x

x = 2

1. 

14x – 28 = 49

14x = 77

x = 5.5

1. – (n – 5) + 3(n + 2) = 4(n – 3) – 1

–n + 5 + 3n + 6 = 4n –12 –1

2n + 11 = 4n – 13

24 = 2n

n = 12

1. 

Using cross multiplication

3 (3 + x) = 2 (x + 1)

9 + 3x = 2x + 2

x = 7

**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 hours

1. 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.

1. 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)   
  
 4x + 5 = 3x + 15   
  
 4x – 3x = 15 – 5   
  
x = 10  
  
4x = 4 × 10 = 40

1. 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 =   
  
2x + 3x + 4x = 180  
  
9x = 180  
  
x = 20  
  
Each angle,  
  
2x = 2( 20) =   
  
3x = 3(20) =   
  
4x = 4(20) =

**Solve the following equations for the given variable:**

c = 3a b