8th LINEAR EQUATIONS CBSE TEST PAPER Solved 2012-13

CBSE TEST PAPER-3

1. Three times a number increased by ten is equal to twenty less than six times the number. Find the number.

Solution

Let the number be x.

A/Q, $3x + 10 = 6x - 20 \Rightarrow 3x - 6x = -20 - 10 \Rightarrow -3x = -30 \Rightarrow x = 10$

2. If twice the difference of a number and 3 is added to 4, the result is 22 more than four times the number. Find the number.

Solution

Let the number be x.

A/Q : $2(x - 3) + 4 = 4x + 22 \Rightarrow 2x - 6 + 4 = 4x + 22 \Rightarrow 2x - 4x = 22 - 4 + 6 \Rightarrow x = -12$

3. The sum of two numbers of two is 64. The difference of the two numbers is 18. What are the numbers?

Solution

Let x be the smaller of the two numbers. then the larger number is = x + 18

A/Q: $x + (x + 18) = 64 \Rightarrow 2x + 18 = 64 \Rightarrow 2x = 64 - 18 \Rightarrow x = 23$,

The smallest of the two numbers is 21 and

the largest of the two numbers = x + 18 = 23 + 18 = 41

4.The length of a rectangle is 10 meters more than twice its width. What is the length and width of the rectangle if its perimeter is 62 meters.

Solution

Let x be the width of the rectangle. Then: length = 2 x + 10

The perimeter of the rectangle = 2 (length + width)

$62 = 2 (2 x + 10 + x) \Rightarrow 62 = 6 x + 20 \Rightarrow 62 - 20 = 6x \Rightarrow x = 7$

length and width are 24 and 7 meters

5. The average of 35, 45 and x is equal to five more than twice x. Find x.

Solution The average (of 35, 45 and x) = (35 + 45 + x) / 3

$= 2x + 5 \Rightarrow 35 + 45 + x = 6x + 15$

$\Rightarrow 65 = 5x \Rightarrow x = 13$

6. The difference in the measures of two supplementary angles is 102^o. Find the two angles.

Solution : Let smaller angle = x so, larger angle = $x + 102^o$

$X + x + 102^o = 108^0$

$2x = 180 - 102 = 78^o$

$x = 78 / 2 = 39^o$ larger angle = $x + 102 = 141^o$

7. Two complementary angles are such that one is 14^o more than three times the second angle. What is the measure of the larger angle.

Solution : in two angles let a larger one and a smaller one = x . The larger one = $3 \times + 14^o$

The sum of two angles is 90^o . $\Rightarrow 3 \times + 14^o + x = 90^o \Rightarrow 4 \times r = 90 - 14 \Rightarrow x = 76 / 4 = 19^o$

larger = $3 \times + 14^o = 3 \times 19 + 14 = 71^o$

8. The sum of a positive even integer number and the next third even integer is equal to 150. Find the number.

Solution Let x be the positive even integer. The next third even integers is $x + 6$

A/Q, $x + x + 6 = 150$. Hence

$2 x = 150 - 6$

$x = 144/2 = 72$

8. Two numbers are such that one number is 42 more that the second number and their average is equal to 40. What are the two numbers?

Solution

If x is the smallest number, then largest = $x + 42$

The average of x and $x + 42$ is equal to 40.

Hence Sum of number = 40x2=80

$x + x + 40 = 80 \Rightarrow 2x = 40 \Rightarrow x = 20$

The two numbers are $x = 20$ and $x + 40 = 60$