1. Two number are in the ratio 8 : 3 if the sum of the numbers is 143 find the numbers

Solution:

Let the two numbers be 8x and 3x respectively

according to question ,

8x+3x = 143

=> 11x = 143

=> x= 143/11 => 13

x = 13 then ,

=> 8x = 8(13) => 104

=> 3x = 3(13) => 39

2. 2 by 3 of a number is 20 less than the original number find the number

Solution:

Step 1:

Let the original no. be x.

Let 2/3 of the original no. be 2/3x.

Step 2:

Forming the equation, we get,

x- 2/3x =20 (2/3x is less than x by 20 means that their difference is 20)

Taking x common from the L.H.S,

x (1-2/3) = 20

Step 3:

Subtracting (1 - 2/3) on the L.H.S,

x (1/3) =20

x = 20 / (1/3)

x = 60

3. Four fifth of a number is 10 more than two third of the number .find the number

Solution:

Let the number be x

4/5 of x=10+2/3 of x

4/5x-2/3x=10

$(12-10)x/15=10$

$2x/15=10$

$2x=15×10=150$

$x=150/2$

therefore x =75

4. 24 is divided into two parts such that 7 times the first part added to 5 times to second part makes 146. Find each part.

Solution:

Let first part be (x) and second(y)

$x+y=24(y=24-x)$

$7x+5y=146$

$7x+5(24-x)=146$

$7x+120-5x=146$

$2x=146-120$

$2x=26$

$x=13$

$y=24-x$

$y=24-13$

$y=11$

therefore: x = 13 and y = 11

5. Three numbers are in the ratio of 4 : 5 : 6.If the sum of the largest and the smallest equals the sum of the third and 55.find the numbers.
Solution:

Let the numbers are 4x , 5x and 6x

$4x+6x = 5x +55$

$\Rightarrow 5x = 55$

$\Rightarrow x =11$

so numbers are 44,55 and 66

6. If 10 be added to four times a certain number the result 5 less than five times the number. Find the number
Solution:

Let the required number be x. Then,

according to question

$10 + 4x = 5x - 5$

$10 + 5 = 5x - 4x$

15 = x.

Hence, the required number is 15

7. Two numbers are such that the ratio between them is 3 : 5. If each is increased by 10, the ratio between the new numbers so formed is 5 : 7. Find the original numbers.
Solution:

Let the two numbers are x and y

then,

x/y = 3/5

x=(3y) /5. ......(1)

also,

(x+10)/(y+10) = 5/7

7(x+10)=5(y+10)

7x = 5y+50-70=5y-20

put the value of x from eq. (1)

7(3y/5) =5y - 20

21y =25y - 100

25y-21y = 100

y = 100/4

y =25

put the value of y in eq.(1)

x = (3×25)/5

x=15

hence , the numbers are 15 and 25

8. Find three consecutive odd numbers whose sum is 147
Solution:

Let the required numbers be (2x + 1), (2x + 3) and (2x + 5).

(2x+1) + (2x+3) + (2x+5) = 147.

=> 6x + 9 = 147

=> 6x = 147 - 9

=> 6x = 138

=> x = 138/6 = 23 (2x = 23 x 2 = 46)

Hence, the numbers are (46+1), (46+3) and (46+5) = 47, 49 and 51