Work sheet

Topic- proportion

Date 7/07/2020

PROPORTION DIVISION:

Suppose that, Tk.500 is to be distributed in the ratio 3:2.

Here the sum of the ratio =3+2 = 5

So, first portion = $\frac{3}{5}$ part of Tk.500

$\qquad$ = Tk.300

And second portion = $\frac{2}{5}$ part of Tk.500

$\qquad$ = Tk.200

Or, second portion = (500-300) Tk

$\qquad$ = Tk.200

So, quantity of one part =

$\qquad$ Given quantity $\times \dfrac{Proportional\ number\ of\ \textbf{that}\ part}{Sum\ of\ the\ ratio}$

Alternative method

Given that, the ratio of the portion is 3:2,

Let first portion = Tk.3x

And second portion = Tk.2x

Accordion to the question

3x+2x=500

Or,5x=500

Or, x= 500÷ 5

Or, x=100

So, first portion = 3× 100

$\qquad$ = Tk.300

And second portion = 2× 100

$\qquad$ = Tk.200

> To convert two ratios into successive ratio, both the antecedent and the subsequent of second ratio are to be multiplied by the subsequent of first ratio and both antecedent and subsequent of first ratio are to be multiplied by antecedent of second ratio.

1. Simon, Sarah and Matthew are given a total of Tk.300
They share it in the ratio 10:11:9. **How much does each receive?**

2.The sum of two expressions is 625.If their ratio is 11:14, What is the greatest number?

3. The angles of a triangle are in the ratio 1:3:8. Find the measures of the three angles of this triangle.

4.In a bag of red and green sweets, the ratio of red sweets to green sweets is 3:4. If the bag contains 120 green sweets, how many red sweets are there?

5.The ratio of income of Rahim and Arman is 6:5 and that of Arman and Rafik 4:3, If 5900 takas divided among Rahim, Arman and Rafik, how much will each of them?

Work sheet solution

1.In a bag of red and green sweets, the ratio of red sweets to green sweets is 3:4. If the bag contains 120 green sweets, how many red sweets are there?

Solution

Let x = red sweets

$$\frac{red}{green} = \frac{3}{4} = \frac{x}{120}$$

Or,$3 \times 120 = 4 \times x$ [*Cross Multiply*]
or,$360 = 4x$

$$x = \frac{360}{4} = 90$$

There are 90 red sweets. (Answer)

2.The angles of a triangle are in the ratio 1:3:8. Find the measures of the three angles of this triangle.
Solution
If the ratio of the three angles is 1:3:8,

 Let the three angles are x, 3x and 8x.

 Also, the sum of the three interior angles of a triangle is equal to 180°.

According to the Question
$x + 3x + 8x = 180^0$

or,$12x = 180^0$
 therefore x $= 15^0$

The measures of the three angles are
x $= 15°$
$3x = 3 \times 15^0 = 45°$
$8x = 8 \times 15^0 = 120°$

3.The ratio of the price of two televisions is 5:7

a) Two numbers are in the ratio 7: 9. If the sum of the numbers is 112, then the larger number is

b) If the price of 2nd television is 35000 TK, what is the price of 1st television?

c) If the price of 1st television is increased by 5000, what is the ratio of 1st and 2nd computer?

Solution:

 4.The ratio of income of Rahim and Arman is 6:5 and that of Arman and Rafik 4:3, If 5900 takas divided among Rahim, Arman and Rafik, how much will each of them?

Solution: