Tender Heart High School, Sec.-33B Chd.

Class: VIII

Subject: Mathematics **Teacher:** Deepti

Topic: Ratio and proportion

Chapter - 9

The ratio is the comparision of two or more quantities of same kind.

for e.g $a : b$

a → 1st term (antecedent), b → 2nd term (consequent)

Points to be remember:

1. Ratio is always between the same quantity.
2. Ratio always remains same when mutliplied or divided by same quantity.

Proportion:

The equality of two ratio is called proportion

If a, b, c and d are in proportion Then

$a : b :: c : d$

a, d → extremes; b, c → means

★ Product of means = Product of extremes.

★ Continued proportion

$$a : b : b : c$$

$$\Rightarrow b = \sqrt{ac}$$

Exercise - 9A

Soln (iv) $\frac{1}{6} : \frac{1}{9} : \frac{1}{12}$

L.C.M = 36

$\frac{1}{6} \times 36 : \frac{1}{9} \times 36 : \frac{1}{12} \times 36$

$6 : 4 : 3$

L.C.M

2	6, 9, 12
2	3, 9, 6
3	3, 9, 3
3	1, 3, 1
	1, 1, 1

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Soln 7. Divide ₹810 among A, B, C ratio $\frac{1}{4} : \frac{2}{5} : 1\frac{3}{8}$

L.C.M = 40

$\frac{1}{4} : \frac{2}{5} : \frac{11}{8}$

Ratio = $\frac{1}{4} \times 40^{10} : \frac{2}{5} \times 40^{8} : \frac{11}{8} \times 40^{5}$

= 10 : 16 : 55

Share of A = $\frac{10}{81} \times 810^{10} = ₹100$

Share of B = $\frac{16}{81} \times 810^{10} = ₹160$

Share of C = $\frac{55}{81} \times 810^{10} = ₹550$

Soln 16. Ratio of two numbers = 7 : 4

$\Rightarrow$ 1st number = 7x, 2nd number = 4x

A.T.Q $7x - 4x = 72$

$3x = 72$

$x = \frac{72}{3}^{24}$

$\Rightarrow$ Numbers are : $7 \times 24 = 168$

$4 \times 24 = 96$

Soln 24. Ratio of physics marks = 58 : 75

ratio of maths marks = 97 : 120

L.C.M = 600

$\frac{58 \times 8}{75 \times 8} = \frac{464}{600}$

$\frac{97 \times 5}{120 \times 5} = \frac{485}{600}$

$\Rightarrow$ Maths performance in maths is better