

QUANTITATIVE APTITUDE

RATIOS AND PROPORTIONS

$$A:B :: C:D$$

$$AD = BC$$

$$\begin{array}{l} A:B = (2:3) \\ B:C = (4:5) \\ \hline A:B:C = 8:12:15 \end{array}$$

$$\begin{array}{l} A:B = (1:2) \\ B:C = (3:4) \\ C:D = (5:6) \\ \hline \end{array}$$

$$A:B:C:D = 15:30:40:45$$

P.9 NO. 61

$$\begin{array}{l} \text{Ex-1. } A:B = 8:15 \\ B:C = 8:8 \\ C:D = 4:8 \\ \hline A:D = 4:15 \end{array}$$

2. M : F there are 84 males

$$\begin{array}{l} 7 : 4 \\ \hline M = 84 \end{array} \rightarrow 11 \times 12 = 132$$

$$\begin{array}{l} 7P = 8412 \\ \hline 1P = 12 \end{array}$$

3. P : Q : R
2 : 3 : 5 $\rightarrow 5 \times 100 = 500$

$$7P > 3P = 400/-$$

$$4P = 400$$

$$1P = 100$$

4. M : P : B
5 : 7 : 8
40% : 50% : 75%

$$\frac{5 \times 140}{100} : \frac{7 \times 150}{100} : \frac{8 \times 175}{100}$$

$$2 : 3 : 4$$

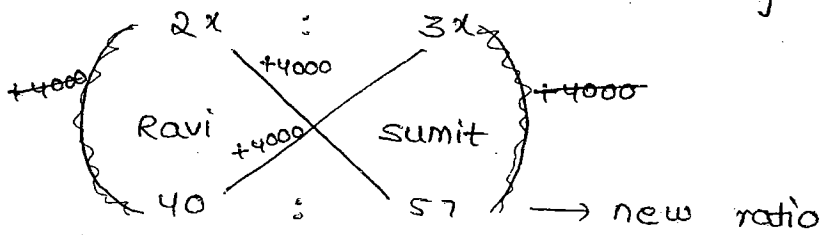
$$10\% \text{ of } x = \frac{10}{100} \times x = \frac{x}{10}$$

$$10\% \uparrow = x + \frac{x}{10} = \frac{4x}{10}$$

$$\boxed{10\% \uparrow = \frac{110}{100}}$$

5. Ravi Sumit

Salary increased by 4000



$$(2x+4000)57 = (3x+4000)40$$

$$x = 21,000$$

∴ None of these.

6.

$$A = \frac{2}{3}B \Rightarrow A:B = \left(\frac{2}{3} : 1\right)$$

$$B = \frac{1}{4}C \Rightarrow B:C = \left(1 : 4\right)$$

$$A:B:C = 2:3:12$$

$$= 2 \times 30 : 3 \times 30 : 12 \times 30$$

$$= 60 : 90 : 360$$

$$17p = 510$$

$$1p = 30$$

7.

$$A : B : C$$

$$3 \quad 4 \quad 5 \leftarrow$$

$$5\% \quad 10\% \quad 15\%$$

↓

$$4 \times 200 = 800$$

$$\frac{10\%+}{810}$$

$$\frac{2430}{30}$$

$$\frac{2400}{2400}$$

$$30\%$$

$$(3+4+5)$$

↓

$$12p = 2400$$

$$1p = 200$$

P.9 No:- 62

1. Mixture of 60 lit

$$\Rightarrow \frac{60}{3} = 20 \text{ each part}$$

Milk water

$$2 : 1$$

$$\Rightarrow (2 \times 20) : (1 \times 20)$$

$$40 \text{ lit} : 20 \text{ lit} :: 1 : 2$$

new ratio

+x

$$(40 \times 2) = (20+x) \times 1$$

$$x = 60 \text{ lit}$$

$$20+x$$

2. Mixture = 20 lit
 $\frac{-4 \text{ lit}}{16 \text{ lit}}$

$5 + 3 = 8 \text{ parts}$

$= \frac{16}{8} = 2 \text{ each part}$

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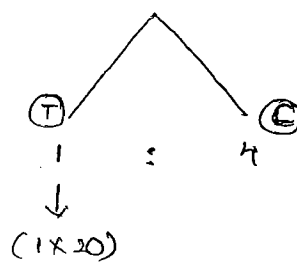
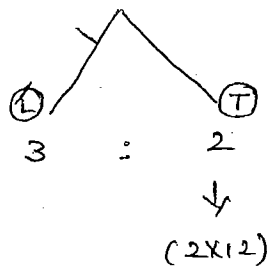
M : W
 $5 : 3$
 $\downarrow$
 $(5 \times 2) : (3 \times 2)$
 $10 \text{ lit} : 6 \text{ lit}$
 $\left[\begin{array}{l} +4 \\ 14 \text{ lit} : 6 \text{ lit} \end{array} \right.$
 $7 \text{ lit} : 3 \text{ lit.}$

3.

A (60 kg)

B (100 kg)

$5p = 60$
 $1 \text{ part} = 12 \text{ kg}$



$5p = 100$
 $1 \text{ part} = 20 \text{ kg}$

$24 + 20 = 44 \text{ kg.}$

4.

A
 $G : C$
 $7 : 2$

B
 $G : C$
 $7 : 11$

C
 $G : C$

Total parts = 9

Total parts 18

$\left(\frac{7}{9} + \frac{7}{18} \right) : \left(\frac{2}{9} + \frac{11}{18} \right)$

$\frac{7}{9} : \frac{2}{9}$

$\frac{7}{18} : \frac{11}{18}$

$21 : 15$

$7 : 5$

(each part)

5. $A = B + 7 = x + 8 + 7 = x + 15 = 25$

$B = C + 8 = x + 8 = 18$

$C = x = 10$

$x + 15 + x + 8 + x = 53$

$A : B : C$

$x = 10$

$25 : 18 : 10$

$$6. \quad \begin{array}{ccc} 25p & 10p & 5p \\ 1 & 2 & 3 \end{array}$$

$$\begin{array}{ccc} \hline 25p & 20p & 15p \\ \hline \end{array}$$

$$\longrightarrow \frac{15 \times 50}{5} = 150 \text{ NO's.}$$

$$60p = 30 \times 100$$

$$1p = 50 \text{ NO's of 1 paise coins}$$

7.

Income

$$A : B$$

$$5 : 4$$

↓

$$5 \times 800$$

$$= 4000/-$$

expenditure

$$A : B$$

$$3 : 2$$

$$2p = 1600$$

$$p = 800$$

$$\text{Saving} = \text{Income} - \text{expenditure}$$