Ratio and proportion

आनुपात   समानुपात

A   B
25₹   20₹

A : B
$\frac{35 : 42}{5 : 6}$

A : B
$\frac{56 : 72}{7 : 9}$

A : B
$\frac{25 : 20}{5 : 4}$ → Standard Ratio

HCF → 1

Integer (पूर्णांक)

$A : B$

$5 : 4$

$5 ₹$	$4 ₹$
$10 ₹$	$8 ₹$
$15 ₹$	$12 ₹$
$20 ₹$	$16 ₹$
$25 ₹$	$20 ₹$
$30 ₹$	$24 ₹$

$A : B$

$5 : 4$

$(-)$

$: 1 = 120 ₹$

$\times 120$

$\times 120$

$\boxed{600 ₹}$

$\boxed{480 ₹}$
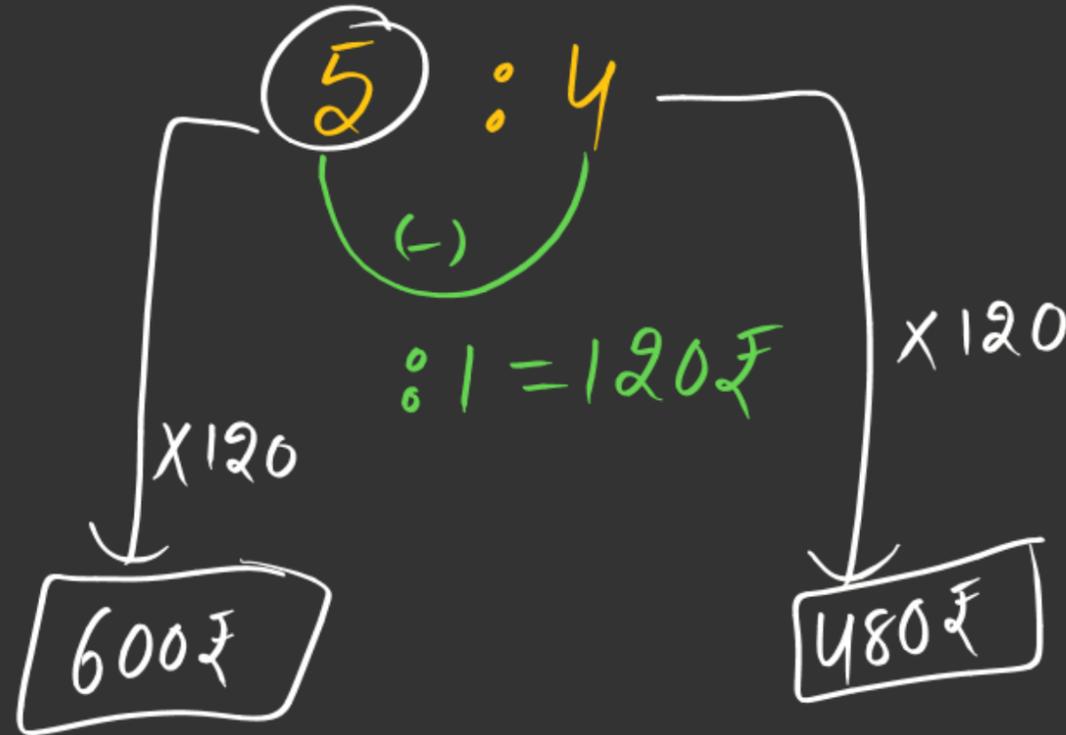
$\boxed{A - B = 120 ₹}$

$\# \quad A : B \qquad \boxed{A + B = 80 ₹}$

$3 : 2 \rightarrow : 5 = 80 ₹$

$: 1 = 16 ₹$

$\times 16$

$\times 16$

$48 ₹$

$32 ₹$

✓

✓

$$\overset{6}{\underset{\times 2}{\uparrow}} \quad \overset{8}{\underset{\times 2}{\uparrow}}$$

\# $A : B$

$A \times B = 48$

$(3 : 4) \times K$

$3K : 4K$

$3K \times 4K = 48$

$\cancel{12}K^2 = \cancel{48}^4$

$K^2 = 4$

$K = \sqrt{4}$

$\boxed{K = 2}$

\# $\overset{2}{\cancel{10}}A = \overset{3}{\cancel{15}}B$

$2A = 3B$

$3 : 2$

\# $7A = 9B$

$$A : B$$
$$9 : 7$$

\# $2A = 3B = 5C \xrightarrow{\text{Lcm}} 30$

$$A : B : C$$
$$15 : 10 : 6$$

II-method

$$2A = 3B = 5C$$

$$A : B : C$$
$$15 : 10 : 6$$

3A = 4B = 7C $\xrightarrow{\text{LCM}}$ (84)

A : B : C

28 : 21 : 12

2A = 3B = 4C = 5D

A : B : C : D

~~60 : 40 : 30 : 24~~

30 : 20 : 15 : 12

$\dfrac{A}{5} = \dfrac{B}{7} = \dfrac{C}{8} = \dfrac{D}{12}$

$A \; : \; B \; : \; C \; : \; D$

$5 \; : \; 7 \; : \; 8 \; : \; 12$

$\dfrac{1 \times A}{13} = \dfrac{1 \times B}{19} = \dfrac{1 \times C}{37}$

$A \; : \; B \; : \; C$

$13 \; : \; 19 \; : \; 37$

$$2,3,5 \xrightarrow{LCM} \times 30$$

$$3,4,6 \xrightarrow{LCM} 12$$

$\dfrac{\cancel{2}A}{5\times\cancel{30}} = \dfrac{\cancel{3}B}{7\times\cancel{30}} = \dfrac{\cancel{6}C}{11\times\cancel{30}}$

$$\dfrac{A}{75} = \dfrac{B}{70} = \dfrac{C}{66}$$

$$\boxed{\begin{array}{c} A : B : C \\ 75 : 70 : 66 \end{array}}$$

$\dfrac{\cancel{3}A}{7\times\cancel{12}} = \dfrac{\cancel{4}B}{13\times\cancel{12}} = \dfrac{\cancel{6}C}{19\times\cancel{12}}$

$$\dfrac{A}{28} = \dfrac{B}{39} = \dfrac{C}{38}$$

$$A : B : C$$

$$28 : 39 : 38$$

85%
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