

Orientation

Weapons (Tools)

1) Unitary Method

2) Percentage

3) Ratio

1) Unitary Method \Rightarrow Comparison

3 Lassis = 150 ₹ \Rightarrow Individual value

5 Lassis = More

More

less

\times Individual value

$$\frac{5}{3} \times 150 \text{ ₹}$$

$$= 250 \text{ ₹}$$

#

$$5 \text{ Lassis} = 250 \text{ ₹}$$

$$4 \text{ Lassis} = \underline{\text{less}}$$

$$\frac{\text{less}}{\text{more}} \times \text{Individual value}$$

$$\frac{4}{8} \times \frac{500}{2} \text{ ₹} = 250 \text{ ₹}$$

#

4 Cassis = 200 F

5 banana
shakes = ?

Not
Applicable

Note -

1) Unitary method is only applicable
on same things.

2) Answers always come in terms of an Individual value.

Unitary methods

Direct variation

$$5 \text{ books} = 80 \text{ F}$$

$$10 \text{ books} = 160 \text{ F}$$

Indirect
Variation

Indirect variation

eg

$$5 \text{ men} = 25 \text{ days}$$

$$10 \text{ men} = \underline{\text{less}} \quad \downarrow \text{decreasing}$$

↑
Increasing

$$\frac{\text{less}}{\text{more}} \times \text{Individual value}$$

$$\frac{\cancel{5}}{10} \times 25 \text{ days}$$

$$\Rightarrow \frac{25}{2} \text{ days}$$

$$= 12\frac{1}{2} \text{ days}$$

Percentage



$$\frac{1}{4} \Rightarrow \frac{1}{4} \times 100\% = 25\%$$

$$\frac{3}{4}$$

\Rightarrow

$$\frac{3}{4} \times 100\% =$$

$$75\%$$

$$25\%$$

\Rightarrow

$$\frac{25}{100}$$

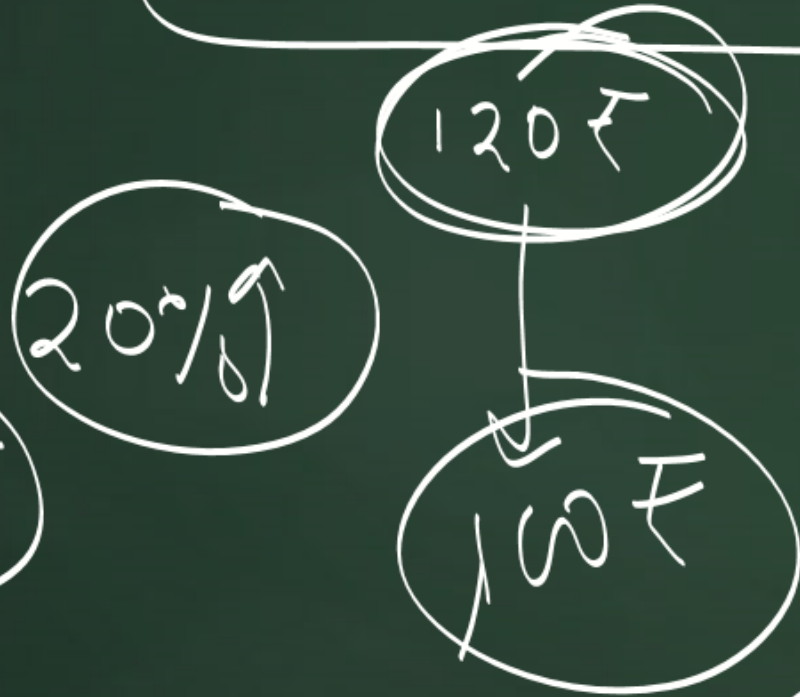
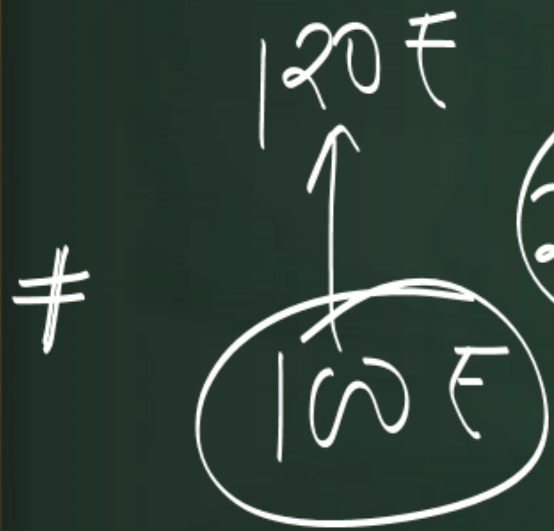
$=$

$$\frac{1}{4}$$

Note

fraction $\xrightarrow{\times 100}$ percentage

Percentage $\xrightarrow{\div 100}$ fraction

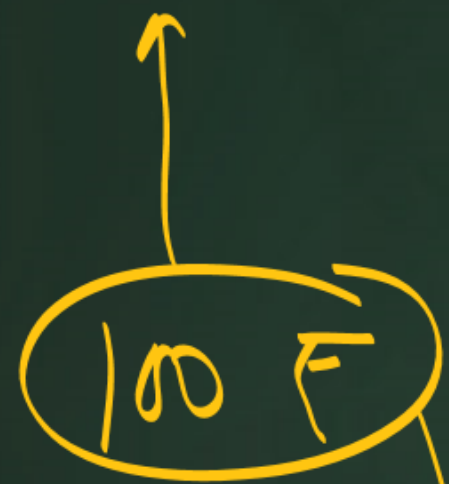


$16\frac{2}{3}\%$ ↓

100€
: 120€

1080500801

120 € //



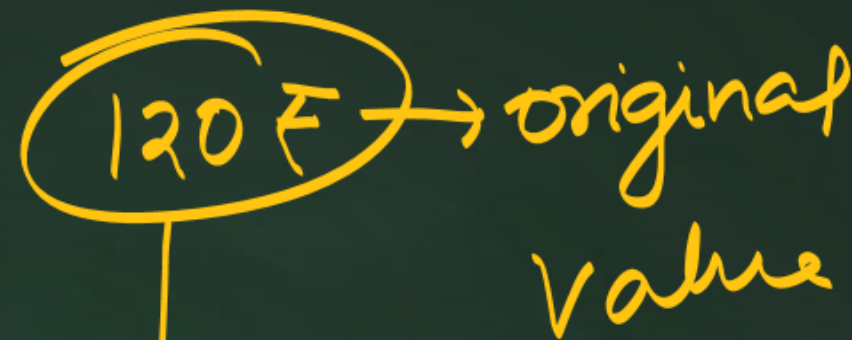
original value

=> increased value = 20 €

$$\text{inc \%} = \frac{\text{inc. value}}{\text{smaller value}} \times 100$$

$$= \frac{20}{100} \times 100$$

$$= 20\%$$



100 €

decreased value

$$\text{dec \%} = \frac{\text{dec. value}}{\text{larger value}} \times 100$$

$$= \frac{20}{120} \times 100 = \frac{50}{3}\% \text{ or } 16\frac{2}{3}\%$$

$$\begin{array}{l} \# \\ 8 \text{ F} \\ \uparrow \\ \text{inc. value} \\ 2 = 6 \text{ F} \end{array}$$

$$\begin{array}{l} \# \\ 120 \text{ F} \\ \uparrow \\ \text{inc. value} \\ 30 \text{ F} = 90 \text{ F} \end{array}$$

$$\begin{array}{l} \# \\ 444 \text{ F} \\ \uparrow \\ \text{inc. value} \\ 111 \text{ F} = 333 \text{ F} \end{array}$$

$$\begin{aligned} \text{inc}\% &= \frac{6}{2} \times 100\% \\ &= 300\% \end{aligned}$$

$$\begin{aligned} \text{inc}\% &= \frac{90}{30} \times 100\% \\ &= 300\% \end{aligned}$$

$$\begin{aligned} \text{inc}\% &= \frac{333}{111} \times 100\% \\ &= 300\% \end{aligned}$$

- Note a) Percentage does not depend on the values.
 b) It depends on the change.

Unitary Method

June 23

Q) Three diggers can dig three pits in three hours. How many pits can six diggers dig in 5 hours.

Sol

By unitary method

No: of Diggers	No: of hours	No: of pits
3 Diggers	3 hrs	3 pits
6 Diggers	5 hrs	<u> </u>

$\frac{\text{More}}{\text{less}} \times \frac{\text{More}}{\text{less}} \times \text{Individual value}$

$$\frac{6}{3} \times \frac{5}{3} \times 3 \text{ pits} = \underline{10 \text{ pits}}$$

Ratio

$$a : b = 1 : 2$$

$$\frac{a}{b} = \frac{1}{2} \implies \text{Division}$$

$$\implies a = \frac{b}{2} \text{ or } b = 2a \implies \text{Comparison}$$

$$\text{Yugrashi} = 12 \text{ yrs}$$

$$\text{Suraj} = 34 \text{ yrs}$$

$$\frac{\text{Yug}}{\text{Suraj}} = \frac{\cancel{12}^6}{\cancel{34}^{17}}$$

$$\frac{\text{Yug}}{\text{Suraj}} = \frac{6}{17}$$

$$\frac{\text{Yug}}{\text{Suraj}} = \frac{6}{17}$$

$$\text{Yug} + \text{Suraj} = 46 \text{ yrs} \quad \text{--- (A)}$$

Let the common multiple be x

$$\text{Yug} = 6x = 6x$$

$$\text{Suraj} = 17x = 17x$$

put the values in eq (A)

$$6x + 17x = 46$$

$$23x = 46$$

$$x = \frac{46}{23} = 2$$

$$\therefore \text{Yug's age} = 6 \times 2 = 12 \text{ yrs}$$

$$\text{Suraj's age} = 17 \times 2 = 34 \text{ yrs}$$

RIMC - DEC - 2024

Monday - Friday

4-5 ⇒ math → Suraj Arya

5-6 ⇒ English → Ankita

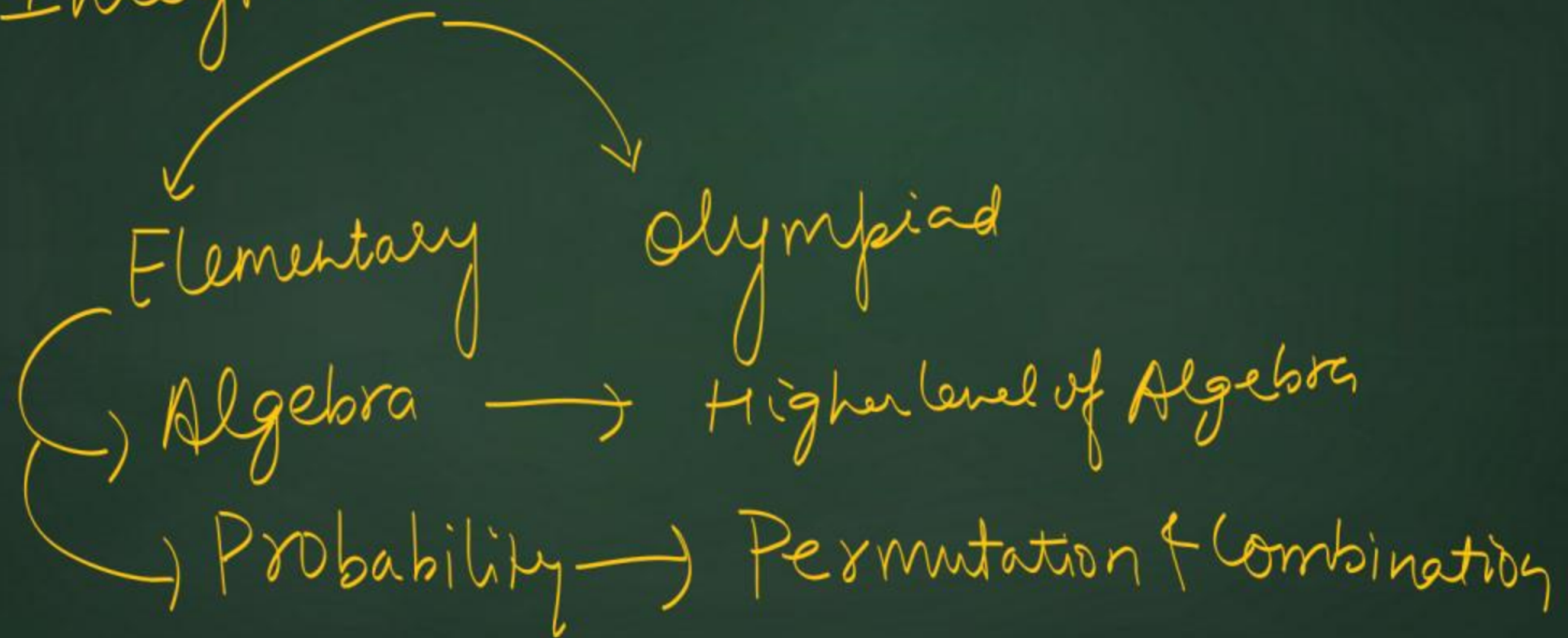
6-7 ⇒ GK → Deepak

Pradnesh

Jitesh

Math

Integrated Mathematics



⇒ Geometry → higher level of geometry

⇒ language based → logical puzzles

RIMC JUNE 2024

Exam

Paper I \Rightarrow math \Rightarrow [30 Questions] \Rightarrow Subjective
9:30 to 11 \Rightarrow 1 $\frac{1}{2}$ hr

Paper II \Rightarrow GK \Rightarrow 12 to 1 \Rightarrow 1 hr (Objective)

Paper III \Rightarrow English \Rightarrow 2:30 to 4:30 \Rightarrow 2 hr

Maths = \Rightarrow

$$198/200$$

50% cut-off

GK = \Rightarrow

$$20/75 \quad X$$

English =

$$70/125$$

Note : Weapons
↳ Notes

Pen => blue pen (ball point)