

TCS NQT 2024 DISCUSSION:

Q.

every unit cost 1

100 units are purchased. If one fifth of them are sold for 20% profit, $\frac{2}{5}$ of them for 10% profit and remaining for 60% loss. Find the SP of all units

day 1

Ans: 100 units = 100rs , 1 unit = 1rs

$$100 \times \frac{2}{5}$$

$$20 \xrightarrow{20\%} 24 \checkmark$$

$$40 \xrightarrow{40\%} 56 \checkmark$$

$$40 \xrightarrow{60\%} 16$$

Simple.

CP

$$\textcircled{100}$$

SP

$$\textcircled{96}$$

TCS NQT 2024 DISCUSSION:

One-third of goods are sold at a 15% profit, 25% of the goods are sold at a 20% profit and the rest at a 20% loss. If the total profit of Rs. 138.50 is earned on the whole transaction, then the value (in Rs.) of the goods is:

☒ Rs. 8,310

☐ Rs. 8,587

☐ Rs. 7,756

☐ Rs. 8,030

$\cdot x$

$$\left[\frac{x}{3} \times \frac{115}{100} = \frac{115x}{300} \right] \checkmark$$
$$\left[\frac{x}{4} \times \frac{120}{100} = \frac{30x}{100} \right]$$

$1 - \left(\frac{x}{3} + \frac{x}{4} \right)$

2min

TCS NQT 2024 DISCUSSION:

Q9:

$$B = \frac{125A}{100}$$

Tricky

Simple:

$$B = \frac{5}{4} A$$

(1)

	eff	days	
A	$\frac{4}{4}$	$\times 75$	} = <u>300</u>
B	5 ✓		
C	6.25		

$$(A+B) \times 10 = (4+5) \times 10 = \underline{90}$$

$$300 - 90 = 210$$

$$\frac{210}{6.25} = \text{33 days}$$

A = 75 days B = 25% more efficient than A

B is 25% more efficient than A.

$$\frac{5 \times 25}{100} = 1.25$$

work = day x eff

$$A = 100$$

$$B = 125$$

$$C = \frac{5 \times 25}{100} = \frac{125}{100}$$

1.25

$$\frac{B}{A} = \frac{125}{100} = \frac{5}{4}$$

C 25% ↑ than B
C : 6.25 B = 5

$$C = B + 1.25$$

$$5 + 1.25$$

TCS NQT 2024 DISCUSSION:

$$SI = \frac{P \times R \times T}{100}$$

4) A certain sum of Rs. 5,000 is invested for 2 years at 10% p.a. find the S.I. on it. The amount obtained is now compounded annually at same rate. find the total amount after 2 years

$P = 5,000, t = 2 \text{ years}, 10\% = r$
 $SI = \frac{5,000 \times 2 \times 10}{100} = 1,000 \checkmark$
 $\text{Amount} = 5,000 + 1,000$
 $= \underline{6,000} \checkmark$

$P = 6,000, r = 10\%, 2 \text{ years}$
 $A = P \left(1 + \frac{r}{100}\right)^n$
 $6,000 \left(1 + \frac{10}{100}\right)^2$
 $= 6,000 \times \frac{11}{10} \times \frac{11}{10} = \frac{121}{6} \times 6,000$
 $= \underline{7,260} \checkmark$

TCS NQT 2024 DISCUSSION:

- 3) Rs 500 is the price of 100 units. 80 of them are sold at Rs 10/unit, 20 units are sold at 50% discount. Find the overall profit & loss %.
- 4) A certain sum of

$$\text{CP} * 100 \text{ units} \rightarrow 500 \text{ Rs} \checkmark$$

$$1 \text{ unit} \rightarrow \frac{500}{100} = 5 \text{ Rs} \checkmark$$

$$\frac{5 \text{ Rs}}{50\% \Rightarrow 2.5}$$

SP

$$80 \times 10 = 800 \text{ Rs}$$

$$20 \times 2.5 = 50 \text{ Rs}$$

$$850$$

$$\text{Profit \%} = \frac{\text{Profit}}{\text{CP}} \times 100 = \frac{350}{500} \times 100 = 70\%$$

TCS NQT 2024 DISCUSSION:

Q.

17th July

Find the correct symbol to be placed

$$\left(1 - \frac{1 - \frac{2}{3}}{1 - \frac{1}{1 - \frac{3}{5}}} \right) \div \frac{\frac{2}{3}}{\frac{3}{2}} \left(\frac{3}{4} \right) = 1$$

✓

$\left(1 - \frac{1 - \frac{1}{3}}{1 - \frac{1}{1 - \frac{2}{5}}} \right) \times \frac{4}{9} = \left(\frac{1 - 3}{1 - \frac{1}{3/5}} \right) \times \frac{4}{9}$
 $\therefore \left(\frac{-2}{1 - \frac{5}{3}} \right) \times \frac{4}{9} = \left(\frac{-2 \times 3}{-2} \right) \times \frac{4}{9} = \frac{4}{9}$
 $\frac{4}{9} \times \frac{3}{4} = 1$

$1 - \frac{2}{3} = \frac{1}{3}$
 $1 - \frac{3}{5} = \frac{2}{5}$
 $\frac{2}{3} \times \frac{2}{3} = \frac{4}{9}$
 $\frac{4}{3} \times \frac{3}{4} = 1$

TCS NQT 2024 DISCUSSION:

) A person starts from home at m/s (speed)
After 2 hours another person starts from the same
place. They meet after 6 hrs. Find the
total distance travelled by the first person
in 10 hrs.

TCS NQT 2024 DISCUSSION:

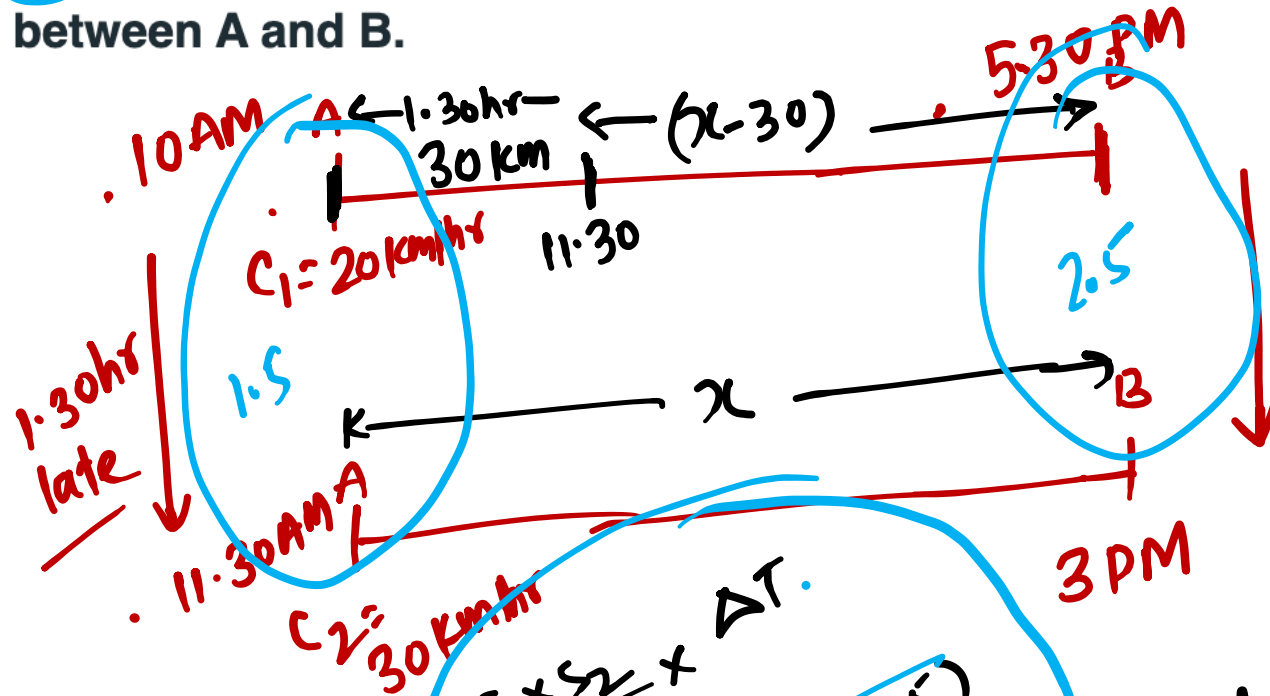
A car starts from point A towards point B, travelling at the speed of 20 km/h. $1\frac{1}{2}$ hours later, another car starts from point A and travelling at the speed of 30 km/h and reaches $2\frac{1}{2}$ hours before the first car. Find the distance between A and B.

1. 300 km

2. 240 km

3. 260 km

4. 280 km



$$D = \frac{S_1 + S_2}{S_1 - S_2} \times \Delta t$$

$$\frac{5}{2} \text{ hr}$$

$$\frac{20 + 30}{30 - 20} \times 4 = \frac{50}{10} \times 4 = 20$$

2.30 hrs early

$$t_1 - t_2 = \frac{5}{2} \text{ hr}$$

$$\frac{(x-30)}{20} - \frac{x}{30} = \frac{5}{2}$$

$$\frac{3x - 90 - 2x}{60} = \frac{5}{2}$$

$$\frac{x - 90}{30} = \frac{5}{2}$$

$$x - 90 = 150$$

$$x = 240 \text{ km} \checkmark$$

$$\frac{S_1 \times S_2}{S_1 - S_2} \times \Delta t$$

$$\frac{20 \times 30}{30 - 20} \times (1.5 + 2.5)$$

$$60 \times 4 = 240$$

C1

$$20 \text{ km/hr}$$

$$1 \text{ hr} = 20 \text{ km}$$

$$30 \text{ min} = 10 \text{ km}$$

TCS NQT 2024 DISCUSSION:

Tea worth Rs 126 per kg and Rs 135 per kg are mixed with a third variety in the ratio 1:1: 2. If the mixture is worth Rs 153 per kg, the price of the third variety per kg will be :
(A) Rs. 169.50 (B) Rs. 175.50 (B) Rs. 170 (D) Rs. 180

Handwritten solution:

Let the prices be T_1 , T_2 , and T_3 per kg.

$T_1 = 126/\text{kg}$, $T_2 = 135/\text{kg}$, $T_3 = x/\text{kg}$

Ratio: 1:1:2

Mixture price: 153/kg

Equation 1:

$$\frac{126 + 135 + 2x}{4} = 153$$

Equation 2:

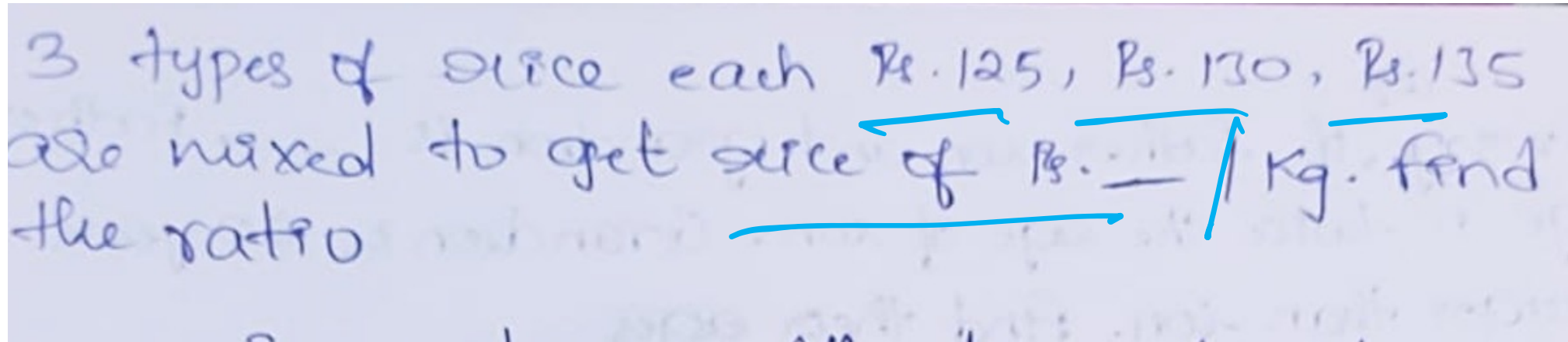
$$(1 \times 126) + (1 \times 135) + (2 \times x) = 153 \times 4$$

Solving for x :

$$261 + 2x = 612$$
$$2x = 351$$
$$x = 175.5$$

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3 types of rice each Rs. 125, Rs. 130, Rs. 135
are mixed to get rice of Rs. — / Kg. find
the ratio