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(A) Q. NO. 07: A man buys 5 kgs of meat at RS. 500 per kg. In addition, for every kg of meat purchased, he has to pay a consumption tax of 6% on the selling price. Calculate the total amount of money he has to pay?

Soln:- Total price = ?

5 kg meat @ 500 RS Per kg.

Consumption tax = 6% of selling price.

Price of 5 kgs meat = 500×5

∴ Price of 5 kg meat = 2500 RS.

∴ The total price to be paid become;

$$P_{(T)} = \text{consumption tax} + \text{Selling Price} \quad \text{--- (1)}$$

$$\therefore \text{Consumption tax} = \frac{6}{100} \times 2500$$

$$\therefore \text{CT} = 150 \text{ RS.}$$

∴ Equation 1 becomes;

$$P_{(T)} = 150 + 2500$$

$$\therefore P_{(T)} = 2650 \text{ RS}$$

Hence,

The total price to be paid is 2650 Rupees.

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(B) ~~Calculate~~ It takes Ali 30 minutes to mark a paper. Aslam only needs 25 minutes to mark a paper. If they both start marking papers at 10 AM, at what time they will finish marking at the same time?

Soln:-

Time taken by Ali to mark each paper = 30 minutes

Time taken by Aslam to mark each paper = 25 minutes

At what time they will finish marking at the same time = ?

The least time at which Ali and Aslam will finish marking at the same time can be given by:-

2	25, 30
3	25, 15
5	25, 5
5	5, 1
	1, 1

$$\Rightarrow 2 \times 3 \times 5 \times 5$$

$$\Rightarrow 150 \text{ minutes}$$

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∴ 150 minutes = 2 hours and 30 mins

∴ Finishing time = 10:00 AM + 2:30
" = 12:30 PM.

Therefore, Ali and Aslam will finish marking papers together at 12:30 PM.

(C) Two bus tickets from Rawalpindi to Islamabad and three tickets from Rawalpindi to Murree cost Rs. 770, but three tickets from Rawalpindi to Islamabad and two tickets from Rawalpindi to Murree cost Rs. 730. What are the fares for cities Islamabad and Murree from Rawalpindi?

Soln:-

$$2 R \longrightarrow I + 3 R \longrightarrow M = 770 \text{ RS.}$$

$$3 R \longrightarrow I + 2 R \longrightarrow M = 730 \text{ R.}$$

$$R \longrightarrow I = ?$$

$$R \longrightarrow M = ?$$

let, ticket from $R \rightarrow I$ be 'x'
and, ticket from $R \rightarrow M$ be 'y'

Now,

$$\therefore 2x + 3y = 770 \text{ RS.} \longrightarrow \textcircled{1}$$

$$3x + 2y = 730 \text{ RS.} \longrightarrow \textcircled{2}$$

Multiplying eq, $\textcircled{1}$ with 3 and eq, $\textcircled{2}$ with $\textcircled{2}$ to align the coefficients:-

$$3(2x + 3y) = 3(770)$$

\therefore eq, $\textcircled{1}$ becomes;

$$6x + 9y = 2310 \longrightarrow \textcircled{3}$$

Similarly, eq, $\textcircled{2}$ becomes;

$$2(3x + 2y) = 2(730)$$

∴

$$6x + 4y = 1460 \rightarrow (4)$$

$$\begin{array}{r} 730 \\ \times 2 \\ \hline 1460 \end{array}$$

Now, subtracting eq. 3 from eq. 4:

$$(6x + 4y) - (6x + 4y) = 2310 - 1460$$

$$6x + 4y - 6x - 4y = 850$$

$$5y = 850$$

$$y = \frac{850}{5} = 170$$

$$\begin{array}{r} 2310 \\ -1460 \\ \hline 850 \end{array}$$

$$\therefore \boxed{y = 170 \text{ RS}}$$

Substituting the value of 'y' in eq. ① :-

$$2x + 3(170) = 770$$

$$2x + 510 = 770$$

$$2x = 770 - 510$$

$$2x = 260$$

$$x = \frac{260}{2} = 130$$

$$\begin{array}{r} 770 \\ -510 \\ \hline 260 \end{array}$$

∴

$$\boxed{x = 130 \text{ RS}}$$

Therefore,

the fare of ticket from Rawalpindi to Islamabad is RS 130 and from Rawalpindi to Muzee is 170 RS each.

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(Q) A told B that C is his father's nephew. D is A's cousin but not the brother of C. What relationship is there between D and C?

Soln:-

∵ C is the nephew of A's father
Therefore,

A and C are cousins.

We also know that, A and D are cousins as well.

~~But~~ Since, D and C are not brothers,
∴ they are cousins to each other.

Therefore, we can say that C and D are both cousins to A and they are not brothers to each other.

Hence, C and D are cousins.