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Mixed Maths Questions for SBI Clerk Pre, IBPS Clerk Pre, LIC Asst. Pre, RBI Asst. Pre and IBPS RRB Exams.

SBI Clerk Pre Quant Quiz 8

Directions : Read the following questions carefully and choose the right answer.

1. 24 litres of Petrol and 6 litres of Diesel are mixed together. A man removes 18 litres of the mixture. Calculate the capacity of petrol and diesel in the remaining mixture?
- A. 8.6 liters, 2.15 liters B. 8 liters, 4 liters C. 9.6 liters, 2.4 liters
D. 9.4 liters, 2.3 liters E. 10 liters, 2.5 liters
2. Priyanka and Sonam decided to do a project together. Priyanka and Sonam can alone do the project in y and $(y + 3)$ days respectively. They were paid Rs. 2400 for completing the project in 5 days. They took help of Anchal and completed the project in time. If Anchal's share is Rs. 600, find the value of y .
- A. 15 B. 9 C. 12 D. 18 E. 21
3. Sanjay has some money, he spends 14.28% of his money on one day international cricket tickets, 11.11% of the remaining money on snacks and remaining money he kept for lunch and transport. If the money kept for lunch and transport is in the ratio 5 : 3 respectively and money kept for transport is Rs. 330, find the money spent on tickets?
- A. Rs. 150 B. Rs. 165 C. Rs. 130 D. Rs. 180 E. Rs. 175
4. 5 years ago, the age of father was 2.25 times the age of his son. 2 years hence, the age of father becomes 2.6 times the age of his daughter. If the son is 7 years elder to daughter, find the present age of Father.
- A. 45 years B. 60 years C. 55 years D. 50 years E. 70 years
5. Three taps T, U and V can fill a tank in z , $(z + 3)$ and $(z + 8)$ hours respectively. They are opened alternatively for one hour each starting with Tap T followed by U and V respectively. Find the value of z , if the tank gets filled completely in 15 hours.
- A. 15 B. 20 C. 10 D. 18 E. 12

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6. Shobhit tells his friend Rommy “ If you give me Rs. 500, then i shall have 30% more than what you have now.” Rommy tells Shobhit “If you give me Rs. 300, then I shall have two times as much as you have now.” How much did Rommy and Shobhit initially have?

- A. Rs. 2400, Rs. 1150 B. Rs. 2000, Rs. 1450 C. Rs. 3000, Rs. 1000
D. Rs. 2200, Rs. 1550 E. Rs. 2500, Rs. 1850

7. A cultural committee of eight is to be formed from nine Americans and five Indians. In how many ways can it be done when the committee consists of at least 3 Indians?

- A. 1260 ways B. 1974 ways C. 1176 ways D. 3088 ways E. 5760 ways

8. A biker travels a distance of 190 km in 3 hours partly at a speed of 100 kmph and partly at a speed of 50 kmph. If the distance travelled by speed 50 kmph is 'a' km, then find the time taken to travel 'a' km with 55 kmph speed?

- A. 1 hour B. 3 hours C. 2 hours D. 4 hours E. 2.5 hours

9. A garment seller gives 2 T-shirts free on the purchase of 8 T-shirts. Find the equivalent discount percentage.

- A. 20% B. 22% C. 25% D. 40% E. 50%

10. The average weight of three students A, B and C is 88.5 kgs while the average weight of the other three students, D , F and G is 83.5 kg. What is the average weight of A, B, C, F and J?

- A. 83.8 kg B. 82.4 kg C. 83.2 kg D. Data inadequate E. None of these

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Correct Answers:

1	2	3	4	5	6	7	8	9	10
C	C	B	D	E	B	B	C	A	D

Explanations:

1. The ratio in the initial mixture and the remaining mixture remains same.

The ratio in the initial mixture = $24 : 6 = 4 : 1$

Since, 18 litres is removed, 12 litres remains.

Capacity of petrol in the remaining mixture

$$= 12 \times \frac{4}{5} = 9.6 \text{ litres}$$

Capacity of Diesel in the remaining mixture

$$= 12 \times \frac{1}{5} = 2.4 \text{ litres}$$

Hence, option C is correct.

2. Priyanka and Sonam can do $1/y$ and $1/(y+3)$ th part of the project in a day respectively.

In 5 days, they can do $5 \{1/y + 1/(y+3)\}$ of the total project.

Total profit was Rs. 2400, Anchal is getting Rs. 600 as her share for the part of the project she did.

$$x = \frac{600}{2400} = \frac{1}{4}$$

So, Anchal did $1/4$ th of the project, rest will be done by Priyanka and Sonam i.e., $3/4$ th part of the project.

$$\rightarrow 5 \left(\frac{1}{y} + \frac{1}{y+3} \right) = \frac{3}{4}$$

Solving this we get $y = 12$

Hence, option C is correct.

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3.

$$14.28\% = \frac{1}{7}$$

$$11.11\% = \frac{1}{9}$$

$$\text{LCM } \{7, 9\} = 63$$

Let the money he had be Rs. $63x$

$$\text{He spend } \frac{1}{7} \text{ on tickets} = \frac{63x}{7} = \text{Rs. } 9x$$

$$\text{He is left with} = (63 - 9)x = \text{Rs. } 54x$$

$$\text{Now, he spend } \frac{1}{9} \text{ of } 54x \text{ on snacks i.e.,} = \frac{54x}{9} = \text{Rs. } 6x$$

$$\text{Remaining money} = (54 - 6)x = \text{Rs. } 48x$$

$48x$ is divided in the ratio 5 : 3 for lunch and transport,

$$\text{For transport} = \frac{48x \times 3}{8} = 18x$$

According to the question,

$$18x \text{ corresponds to } 330$$

$$x \text{ correspond to} = \frac{330}{18} = \frac{55}{3}$$

Money spend on tickets, $9x$ will correspond to

$$= \frac{9 \times 55}{3} = \text{Rs. } 165$$

Hence, option B is correct.

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4. Let the present age of father, son and daughter be F, S and D respectively.

According to the question,

5 years ago, the age of father is 2.25 times the age of son.

$$F - 5 = 2.25 (S - 5)$$

$$F = 2.25S - 5 (2.25 - 1)$$

$$F = 2.25S - 6.25 \quad \dots(1)$$

2 years hence, the age of father becomes 2.6 times the age of daughter,

$$F + 2 = 2.6 (D + 2)$$

$$F = 2.6D + 2 (2.6 - 1)$$

$$F = 2.6D + 3.2 \quad \dots(2)$$

$$S - D = 7 \quad \dots(3)$$

From (1) and (2),

$$2.25S - 6.25 = 2.6D + 3.2$$

$$2.25S - 2.6D = 9.45 \quad \dots(4)$$

Multiply (3) by 2.25 and subtract it from (4)

$$-0.35D = -6.3$$

$$D = 18 \text{ years, } S = 18 + 7 = 25 \text{ years}$$

Substituting value of D in (2),

$$F = 2.6 \times 18 + 3.2$$

$$F = 50 \text{ years}$$

Hence, option D is correct.

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5. Taps T, U and V can fill in z , $(z + 3)$ and $(z + 8)$ hours respectively.

Capacity of tank = LCM $\{z, z + 3, z + 8\}$

In 1st hour, T is opened, in 2nd hour U is opened and in the 3rd hour V is opened. In 3 hours, the taps were opened once, alternatively.

According to the question, total time taken to the tank completely = 15 hours

$$\rightarrow \left(\frac{1}{z} + \frac{1}{z+3} + \frac{1}{z+8} \right) = \frac{1}{15}$$

$$\rightarrow \left(\frac{1}{z} + \frac{1}{z+3} + \frac{1}{z+8} \right) = \frac{1}{5}$$

Substituting the values from the options,

$$\rightarrow z = 15,$$

$$\rightarrow \left(\frac{1}{15} + \frac{1}{18} + \frac{1}{23} \right) = \frac{138 + 115 + 90}{2070}$$

$$\rightarrow \frac{343}{2070} \neq \frac{1}{5}$$

$$\rightarrow z = 20$$

$$\rightarrow \left(\frac{1}{20} + \frac{1}{23} + \frac{1}{28} \right) \neq \frac{1}{5}$$

$$\rightarrow z = 10$$

$$\rightarrow \left(\frac{1}{10} + \frac{1}{13} + \frac{1}{18} \right) \neq \frac{1}{5}$$

$$\rightarrow z = 18$$

$$\rightarrow \left(\frac{1}{18} + \frac{1}{21} + \frac{1}{26} \right) \neq \frac{1}{5}$$

$$\rightarrow z = 12$$

$$\rightarrow \left(\frac{1}{12} + \frac{1}{15} + \frac{1}{20} \right) = \frac{5 + 4 + 3}{60}$$

$$\rightarrow \frac{12}{60} = \frac{1}{5}$$

$$\rightarrow \frac{1}{5} = \frac{1}{5}$$

Hence, option E is correct.

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6. Let Shobhit and Rommy had S, R money initially.

According to the question,

$$S + 500 = 1.3(R - 500)$$

$$S - 1.3R = -1150 \quad \dots(1)$$

$$R + 300 = 2(S - 300)$$

$$R - 2S = -900 \quad \dots(2)$$

Solving (1) and (2) we get,

$$R = 2000, S = 1450$$

Hence, option B is correct.

7. The committee may have 3, 4 or 5 Indians. We compute the number of ways in each case and add them up. Hence, total number of ways

$$\rightarrow {}^5C_3 \times {}^9C_5 + {}^5C_4 \times {}^9C_4 + {}^5C_5 \times {}^9C_3$$

$$\rightarrow 1260 + 630 + 84 = 1974 \text{ ways}$$

Hence, option B is correct.

8. Let the distance travelled with speed 50 kmph be a and the distance travelled with 100 kmph be (190 - a) km respectively.

According to the question,

$$\frac{190 - a}{100} + \frac{a}{50} = 3$$

$$\frac{190 - a + 2a}{100} = 3$$

$$a = 110 \text{ km}$$

Now speed is 55 kmph,

$$\text{Time taken} = \frac{110}{55} = 2 \text{ hours}$$

Hence, option C is correct.

9. Seller gives 2 T-shirts free on the purchase of 8 T-shirts

So, he gives 10 T-shirts for the price of 8 T-shirts

SP of 10 = CP of 8

$$\frac{SP}{CP} = \frac{8}{10}$$

$$\text{Discount} = \frac{CP - SP}{CP} \times 100 = \frac{10 - 8}{10} \times 100 = 20\%$$

Hence, option A is correct.

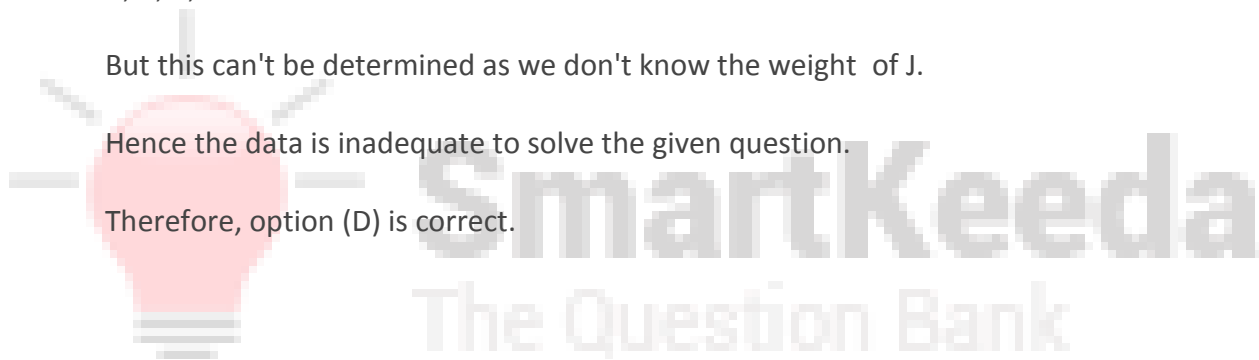
10. We have to determine the average weight of

A, B, C, F and J.

But this can't be determined as we don't know the weight of J.

Hence the data is inadequate to solve the given question.

Therefore, option (D) is correct.



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