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Mixed Maths Questions for SBI PO Pre, IBPS PO Pre, IBPS Clerk Mains and SBI Clerk Mains Exams.

Bank PO Maths Quiz 27

Direction: Study the following questions carefully and choose the right answer.

1. A shopkeeper sold an article at 30% profit. Had the shopkeeper sold the article at 15% loss then he would have earned Rs. 360 less. When shopkeeper sold the article at a profit of 30%, then at that time he allowed a discount 35%. Find the marked price of the article.

- A. Rs. 1500 B. Rs. 1600 C. Rs. 2000 D. Rs. 1200 E. None of these

2. Anshu and Sneha started a business with investment of Rs. 1800 and Rs. 1600, respectively. After one year, Anshu decreased her investment by 15% while Sneha increased her investment by 20%. At the end of two years, total profit earned in the business was Rs. 5480, then find the share of profit of Sneha.

- A. Rs. 2816 B. Rs. 3620 C. Rs. 2664 D. Rs. 4076 E. None of these

3. In an aeroplane, the total number of seats in a row is the greatest number that will divide 53, 83, 98, 188 and 233 so as to leave the same remainder. The total number of rows is 42. Find the maximum number of persons who can travel in the aeroplane?

- A. 800 B. 360 C. 630 D. 720 E. 840

4. Container P and container Q contains water and milk in the ratio 5 : 7 and 6 : 5 respectively. 72 liters and 77 liters of mixture from container P and container Q, respectively is taken out and put into another container R. If initially container P contains 108 liters of mixture, then find the ratio of the amount of water present initially in the container P to the amount of water present in container R.

- A. 5 : 8 B. 6 : 7 C. 11 : 13 D. 8 : 5 E. None of these

5. A shopkeeper sold two books together at Rs. 1600 and the profit earned on 2nd book is 6% more than the profit earned on 1st book. If the total profit earned by the shopkeeper was Rs. 200 and the cost price of first book is Rs. 400, then find the selling price of the second book.

- A. Rs. 1120 B. Rs. 1140 C. Rs. 1180 D. Rs. 1160 E. None of these

6. Two boys Pratik and Sakhsam were doing a cycle race from point A to point B which is 10 km apart. The speed of Rohit was three-fourth of Pratik. After running half the distance Pratik fell down as a result of which he covered the rest of distance with half of his speed. If Rohit reached point B 10 minutes earlier than Pratik , then find the time taken by Pratik to reach point B.

- A. 90 minutes B. 80 minutes C. 75 minutes D. 100 minutes E. Can't be determined

7. In a shop, there is discount of 30%, 20% and 10% if a person buys 4 articles together, 3 articles together and 2 articles together, respectively. What will be the profit % of the shopkeeper if he sells 4 articles, 3 articles and 2 articles together to three different persons respectively provided he marked the article 50% above the cost price?

- A. 15% B. 16.67% C. 13.33% D. 18% E. None of these

8. In a biased lottery, tickets are numbered from 1 to 10. The probability of getting an even number is twice the probability of getting an odd number and the probability of getting a multiple of 4 is thrice the probability of getting rest of the even numbers. Find the probability of getting rest of the even numbers.

- A. $\frac{3}{7}$ B. $\frac{2}{5}$ C. $\frac{1}{3}$ D. $\frac{1}{6}$ E. Can't be determined

9. In 2017, the average number of students of each class in a school from class 1 to 12 was 84 . In 2018, the average number of students who took admission from class 1 to 5 was 16 and the average number of students who left the school from class 6 to 12 was 12. If in 2018, average number of students who left from class 1 to 5 was 18 and total students in the school became 1116, then find the total number of new students who took admission in 2018.

- A. 192 B. 282 C. 172 D. 242 E. 262

10. Find the difference between the interests earned by a person in 2 years and that in one year if he lent Rs. 8400 at 20% per annum compounded annually.

- A. Rs. 2016 B. Rs. 3200 C. Rs. 5218 D. Rs. 4256 E. None of these

Correct Answers:

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

Explanations:

1. Let CP of article = Rs. x
Then, SP at 30% profit = Rs. $\frac{13x}{10}$

And, SP at 15% loss = Rs. $\frac{17x}{20}$

According to question,

$$\frac{13x}{10} - \frac{17x}{20} = 360$$

$$\Rightarrow \frac{26x - 17x}{20} = 360$$

$$\Rightarrow 9x = 360 \times 20$$

$$\Rightarrow x = \text{Rs. } 800$$

$$\text{SP at 30\% profit} = \text{Rs. } \frac{13x}{10} = \text{Rs. } 1040$$

$$\text{MP of the article} = \frac{1040}{0.65} = \text{Rs. } 1600$$

Hence, option B is correct.

2. Total amount invested by Anshu = $1800 + 85\%$ of $1800 = 1800 + 1530 = \text{Rs. } 3330$
Total amount invested by Sneha = $1600 + 120\%$ of $1600 = 1600 + 1920 = \text{Rs. } 3520$
Ratio of investment = $3330 : 3520 = 333 : 352$

$$\text{Share of Sneha} = \frac{352}{685} \times 5480 = \text{Rs. } 2816$$

Hence, option A is correct.

3. The greatest number that will divide 53, 83, 98, 188 and 233 so as to leave the same remainder
= H.C.F. of $(83 - 53)$, $(98 - 83)$, $(188 - 98)$, $(233 - 188)$, $(233 - 53)$

$$= \text{H.C.F. of } 30, 15, 90, 45, 180 = 15$$

$$\text{Maximum number of persons who can travel in aeroplane} = 15 \times 42 = 630$$

Hence, option C is correct.

4. Amount of water initially present in container P

$$= \frac{5}{12} \times 108 = 45 \text{ litres}$$

Amount of water taken out from container P

$$= \frac{5}{12} \times 72 = 30 \text{ litres}$$

Amount of water taken out from container Q

$$= \frac{6}{11} \times 77 = 42 \text{ litres}$$

Total amount of water in container R = $30 + 42 = 72$ litres

Required ratio = $45 : 72 = 5 : 8$

Hence, option A is correct.

5. Let, profit percent on first book be $x\%$

Then, profit percent earned on second book = $(x + 6)\%$

Cost price of both books together = Rs. $(1600 - 200) =$ Rs. 1400

So, cost price of second book = Rs. $(1400 - 400) =$ Rs. 1000

$$\text{Therefore, } \frac{x}{100} \times 400 + \frac{x+6}{100} \times 1000 = 200$$

$$\Rightarrow 4x + 10x + 60 = 200$$

$$\Rightarrow 14x = 140$$

$$\Rightarrow x = 10$$

So, profit made on second book = 16%

Therefore, selling price of second book = 116% of 1000 = Rs. 1160

Hence, option D is correct.

6. Let speed of Pratik be x kmph
 Then, speed of Rohit be $\frac{3x}{4}$ kmph
 Let time taken by Rohit to reach point B = t hours
 Then, time taken by Pratik to reach point B = $t + \frac{1}{6}$

$$\text{So, } \frac{10}{\frac{3x}{4}} = t$$

$$\Rightarrow \frac{40}{3x} = t \dots\dots\dots(i)$$

$$\text{And, } \frac{5}{x} + \frac{10}{x} = t + \frac{1}{6}$$

$$\Rightarrow \frac{15}{x} = t + \frac{1}{6} \dots\dots\dots(ii)$$

After solving (i) & (ii), we get

$$t = \frac{4}{3} \text{ hours} = 80 \text{ minutes}$$

So, time taken by Pratik = 90 minutes

Hence, option A is correct.

7. Let cost price of the article = Rs. x
 Then, marked price of the article = 150% of x = Rs. $\frac{3x}{2}$
 Selling price of articles at 30% discount = $4 \times \frac{70}{100} \times \frac{3x}{2} = \text{Rs. } \frac{21x}{5}$
 Selling price of articles at 20% discount = $3 \times \frac{80}{100} \times \frac{3x}{2} = \text{Rs. } \frac{18x}{5}$
 Selling price of articles at 10% discount = $2 \times \frac{90}{100} \times \frac{3x}{2} = \text{Rs. } \frac{27x}{10}$

$$\text{Total selling price} = \frac{21x}{5} + \frac{18x}{5} + \frac{27x}{10}$$

$$= \frac{42x + 36x + 27x}{10} = \text{Rs. } \frac{105x}{10}$$

Total cost price = $9x$

$$\text{Profit} = \frac{105x}{10} - 9x = \frac{15x}{10}$$

$$\text{Profit \%} = \frac{15x/10}{9x} \times 100 = \frac{15x}{90x} \times 100 = 16.67\%$$

Hence, option B is correct.

8. Let probability of getting an odd number = x
Then, probability of getting an even number = $2x$
So, $x + 2x = 1$

$$\Rightarrow x = \frac{1}{3}$$

Let probability of getting a multiple of 4 = y

Then, probability of getting rest of the even numbers = $\frac{y}{3}$

Therefore, $y + \frac{y}{3} = 2x$

$$\Rightarrow \frac{3y + y}{3} = \frac{2}{3}$$

$$\Rightarrow y = \frac{1}{2}$$

Required probability = $\frac{1}{6}$

Hence, option D is correct.

9. Number of students in 2017 = $12 \times 84 = 1008$

Number of students left the school = $7 \times 12 + 5 \times 18 = 84 + 90 = 174$

Number of students who took admission from class 1 to 5 = $16 \times 5 = 80$

Number of students who took admission from class 6 to 12 = $1116 - (1008 + 80 - 174) = 202$

So, total new admission = $80 + 202 = 282$

Hence, option B is correct.

- 10.

Interest earned in one year = $\frac{8400 \times 20 \times 1}{100} = \text{Rs. } 1680$

Interest earned in 2 years = $8400 \times \left[\left(1 + \frac{20}{100}\right)^2 - 1 \right] = \text{Rs. } 3696$

Required difference = $\text{Rs. } (3696 - 1680) = \text{Rs. } 2016$

Hence, option A is correct.



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