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Bank PO Maths Quiz 39

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

1. When Ram was asked his age then he being good in reasoning, said that my age before 5 years was one – twentieth of my father's present age. 12 years hence, I will get married and my wife's age will be three times of my present age. After 2 years of marriage, I will get a baby and the average age of my family will become 18.5 years. What will be Ram's father age when he gets a baby?

- A. 36 years B. 44 years C. 28 years D. 34 years E. None of these

2. Two motorboats A and B, start simultaneously from the two ends P and Q of a river in downstream and upstream respectively. The speed of the motorboat A in still water is 200% more than that of motorboat B. If the distance between P and Q is 120 Km and they meet each other after 5 hours then how long the motorboat A will take to travel 90 km in still water?

- A. 6 hours B. 5 hours C. 8 hours D. None of these E. Can't be determined

3. Tenali Ram purchased 150 chocolates for his 5 grandsons and distributed the chocolates in such a way that the number of chocolates received by each grandson is in arithmetic progression. The highest number of chocolates received by any one of them is 28 more than the lowest number of chocolates received by any one of them. What is the sum of highest number of chocolates received by any one of them and the lowest number of chocolates received by any one of them?

- A. 50 B. 60 C. 40 D. 70 E. None of these

4. Vicky invited some of his friends for a party. 20% of them came by car and 40% of the remaining came by Bike. The number of friends who came by bus is 50% more than that by car and if 36 friends came by auto then total how many friends came by Bike? (assume that all came by any one of the vehicles car, bike, bus or auto)

- A. 72 B. 60 C. 64 D. 50 E. None of these

5. A and B start swimming simultaneously towards each other from the point P and Q respectively. After 12 hours, they meet each other after that A takes 6 hours 40 minutes more to reach the point Q. What is the ratio of the speed of A in still water to that of the speed of stream if it is given that the direction of flow of the river is from point P to Q and in still water the ratio of the speed of A to that of B is 7 : 5?

- A. 7 : 5 B. 35 : 6 C. 49 : 5 D. 42 : 5 E. None of these

6. In a pond, the ratio of type A fish and type B fish is 7 : 5 respectively. One day, a fisherman catches 120 of type A fish but releases 120 of type B fish into the pond then the ratio becomes 1 : 1. If he had caught 465 type A fish and had not released any type B fish into the pond, what would have the ratio become?

- A. 3 : 5 B. 3 : 7 C. 5 : 8 D. 2 : 3 E. None of these

7. On 1st Jan 2018, Pinki and Rinki signed a contract of a work with a firm for Rs. 4500 and started working immediately together for 6 hours per day. On 31st Jan 2018 they submitted the work, then the share of Pinki was Rs. 500 more than that of Rinki. If Rinki had worked alone for the same hours per day then on which date of the year 2018 she would have submitted the work? (assume that they work on the both date, 1st Jan as well as 31st Jan)

- A. 15th March B. 11th March C. 25th Feb D. 5th March E. None of these

8. The average age of 6 members of a family is 45 years. After x years one of the members of the family whose age was 75 died and after x more years a baby was born, then the average become $283/6$ years. What is the value of x?

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

9. Every day Ayushman covers a certain distance between his house and college on bike. One day, having an average speed of 60 km per hour he reaches his college 20 minutes late. However, on the next day, having an average speed of 80 km per hour he reaches his college 5 minutes late. At what speed should he go if he wants to reach the college exactly on time?

- A. 100 km per hour B. 90 km per hour C. 85 km per hour D. 95 km per hour E. None of these

10. A shopkeeper marked the price of a clock as Rs. 4500. The clock was sold at Rs. 3442.5 after allowing two successive discounts. If the first discount was 10% and the second discounted percentage was half of the profit percentage on the cost price, then what was the profit percentage on the cost price?

- A. 7.5% B. 15% C. 30% D. 20% E. None of these

Correct Answers:

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

Explanations:

- 1.** Let 5 years ago, Ram's age = x years
At present, Ram's father age = $20x$ years
12 years hence, Ram's age = $x + 5 + 12 = 17 + x$ years
And his wife age = $(x + 5) \times 3 = 3x + 15$ years
After 2 years of marriage, Ram's age = $17 + x + 2 = 19 + x$ years
Ram's father age = $20x + 12 + 2 = 20x + 14$ years
Ram's wife age = $3x + 15 + 2 = 17 + 3x$
Ram's baby age = 0 years
The average = $(19 + x + 20x + 14 + 17 + 3x + 0) = 74$
 $24x = 24$
 $x = 1$
Ram's father age when he gets baby = $20x + 14 = 34$ years
Hence, option D is correct.
- 2.** Let the speed of motorboat B in still water = x km per hour then the speed of motorboat A in still water = 300% of $x = 3x$ km per hour
Let the speed of stream = v km per hour
The speed of motorboat A in downstream = $3x + v$ km per hour
The speed of motorboat B in upstream = $x - v$ km per hour
The relative speed of A and B = $3x + v + x - v = 4x$ km per hour
Distance = speed \times time
 $120 = 4 \times 5 \times x$
 $x = 6$
The speed of motorboat A in still water = $3x = 18$ km per hour
The time taken by the motorboat A to travel 90 km in still water = $\frac{90}{18} = 5$ hours
Hence, option B is correct.

3. Let the first person got a number of chocolates then 2nd person = $a + d$ (where d is common difference)

3rd person = $a + 2d$ and so on

The sum = $a + a + d + a + 2d + a + 3d + a + 4d = 5a + 10d = 150$

$a + 2d = 30$ ----- (i)

The highest number of chocolates received by any one of them is 28 more than that of lowest number of chocolates received by any one of them

Therefore, $(a + 4d) - a = 4d = 28$

$d = 7$

Put the value of d in the equation (i)

$a + 14 = 30$

$a = 16$

The required sum = $a + a + 4d = 2a + 4d = 32 + 28 = 60$

Hence, option B is correct.

Alternate solution:-

Let the first person got a number of chocolates then 2nd person = $a + d$ (where d is common difference)

3rd person = $a + 2d$ and so on

The sum = $a + a + d + a + 2d + a + 3d + a + 4d = 5a + 10d = 150$

$a + 2d = 30$ ----- (i)

We need to find the sum of the highest number of chocolates received by any one of them and the lowest number of chocolates received by any one of them which is $a + a + 4d = 2a + 4d$

If we multiply equation (i) with 2, then we can directly get the value of $(2a + 4d)$ as 60.

Hence option B is correct

6. Let the type A fish = $7x$ then type B fish = $5x$

According to the question,

$$\frac{7x - 120}{5x + 120} = \frac{1}{1}$$

$$7x - 120 = 5x + 120$$

$$2x = 240$$

$$x = 120$$

$$\text{Type A fish} = 120 \times 7 = 840$$

$$\text{Type B fish} = 120 \times 5 = 600$$

If he had caught 465 of type A fish and had not released any of type B fish.

$$\text{Then the ratio} = (840 - 465) : 600 = 375 : 600 = 5 : 8$$

Hence, option C is correct.

7. Let the share of Pinki = x then the share of Rinki = $x - 500$

According to the question, $x + x - 500 = 4500$

$$2x = 5000$$

$$x = 2500$$

$$\text{The ratio of share} = 2500 : 2000 = 5 : 4$$

We know that share is directly proportional to efficiency

Let Pinki alone can do the work in $4a$ days then Rinki alone can do the work in $5a$ days

They together take 31 days

Therefore,

$$\frac{1}{5a} + \frac{1}{4a} = \frac{1}{31}$$

$$9 \times 31 = 20a$$

$$a = \frac{31 \times 9}{20}$$

$$\text{The number of days Rinki will take} = \frac{31 \times 9}{20} \times 5 = \frac{279}{4} = 69.75 \text{ days}$$

Therefore, she can submit the work in 31 (Jan) + 28 (Feb) + 10.75 days of March

It means, on 11th March she can submit the work.

Hence, option B is correct.

8. The sum of the age of 6 member = $6 \times 45 = 270$ years

After x years, the sum will become $270 + 6x$

When one person of 75 years died then the sum = $270 + 6x - 75 = 195 + 6x$

Remaining number of members = 5

Again after x years, the sum of the age of family = $195 + 6x + 5x = 283 \times 6/6$ (after baby was born, the total member becomes 6)

$$195 + 11x = 283$$

$$11x = 88$$

$$x = 8$$

Hence, option D is correct.

9. Let the total distance = x km

Then according to the question,

$$\frac{x}{60} - \frac{x}{80} = \frac{20 - 5}{60} = \frac{1}{4}$$

$$\frac{x}{15} - \frac{x}{20} = 1$$

$$5x = 300$$

$$x = 60 \text{ km}$$

If he drives at 60 km per hour for 60 km then he was late by 20 minutes it means the exact time to reach the college = 1 hour – 20 minutes = 40 minutes

$$\text{The speed} = \frac{60 \times 60}{40} = 90 \text{ km per hour}$$

Hence, option B is correct.

10. MP = Rs. 4500

When 10% discount was offered then the new price = $(100 - 10)\%$ of 4500 = 90% of 4500 = Rs. 4050

Again x% discount was offered then the price was reduced by Rs. $(4050 - 3442.5) =$ Rs. 607.5

x% of 4050 = 607.5

$$x = \frac{607.5 \times 100}{4050} = 15\%$$

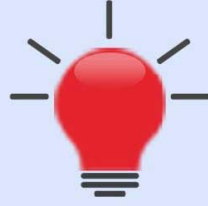
Second discounted percentage was half of the profit percentage on the cost price

The profit percentage on the cost price = $15 \times 2 = 30\%$

Hence, option C is correct.



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