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

Bank PO Maths Quiz 7

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

1. A person invests Rs. x under simple interest in bank1 for 4 years at the rate of 10% per annum. He invests Rs. x + 500 under simple interest in bank2 for 5 years at the rate of 7.5% per annum. If the simple interest received from the bank1 is Rs. 75 less than that of the bank2, what is the sum of the simple interest received from both the banks together?

A. Rs. 4500   B. Rs. 4250   C. Rs. 3675   D. Rs. 3775   E. None of these

2. In a school, class1 had 12 football players, class2 had 15 football players, class 3 had 8 football players and class 4 had 5 football players. If one single football player is to be selected for interschool football match then what is the probability that the player is either from class 2 or class 3?

A. $\dfrac{1}{2}$ B. $\dfrac{11}{20}$ C. $\dfrac{23}{40}$ D. $\dfrac{3}{5}$ E. None of these

3. The average age of a man's wife, and his twin daughters is 45 years. The ratio of the age of wife and a daughter is 5 : 1. What is the age of father?

A. 112.5 years   B. 120 years   C. 125 years   D. 80 years   E. Can't be determined

4. The initial investments of three persons, Seeta, Geeta, and Meeta was in the ratio of 4 : 6 : 9 respectively. At the end of one – year, they divided the profit in the ratio of 4: 5: 6 respectively. If Seeta had invested for exactly 12 months then Meeta's investments was how many months more/less thant that of Geeta's investments?

A. 2 months less   B. 3 months less   C. 2 months more   D. 3 months more   E. None of these

5. The area of a square is 28 sq. cm more than the area of a rectangle of length 14 cm and breadth 12 cm. What will be the area of incircle of the square?

A. 162 sq. cm.   B. 154 sq. cm.   C. 132 sq. cm.   D. 160 sq. cm.   E. None of these

6. At present, the ratio of the age of A to B is 4 : 5. Five years ago, the ratio of the age of B to C was 3 : 2. Five years hence, the age of C become 30 years , then at present what is the age of A?

A. 24 years   B. 28 years   C. 32 years   D. 36 years   E. None of these

7. The selling price of 5 shirts and 4 trousers is Rs. 12000 which is equal to three times of the selling price of 2 shirt and 1 trouser. Find the selling price of 3 shirts and 3 trousers?

A. Rs. 10000   B. Rs. 7500   C. Rs. 6000   D. Rs. 8000   E. None of these

8. The distance between two bus stop at lucknow and Delhi is 450 km. A bus starts from lucknow and moves towards delhi at an average speed of 15 km/h. Another bus starts from delhi, 20 min earlier than the bus at lucknow and moves towards lucknow at an average speed of 20 km/h. How far from lucknow and from delhi will the two bus meet respectively ?

A. 190 km, 260 km   B. 290 km, 160 km   C. 260 km, 160 km   D. 160 km, 290 km   E. None of these

9. A and B together can complete a piece of work in 30 days but C can destroy the work in 120 days. If B and C work together, then they take 240 days to complete the work. Find the number of days, A alone will take to complete the work?

A. 36 days   B. 42 days   C. 60 days   D. 48 days   E. None of these

10. A person invested Rs. x under simple interest for 10 years at 10% per annum. If he had invested Rs. 2x under simple interest for 15 years at the rate of interest 20% per annum then he would have received Rs. 2500 more simple interest. Find the value of X?

A. Rs. 2500   B. Rs. 500   C. Rs. 3250   D. Rs. 3750   E. None of these

Correct Answers:

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

Explanations:

1.

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

In bank1

$$SI = \frac{x \times 10 \times 4}{100} = \frac{2x}{5} = 0.4x \ ......(i)$$

In bank2

$$SI = \frac{(x + 500) \times 7.5 \times 5}{100} = (x + 500) \times 0.375 = 0.375x + 187.5 \ ....(ii)$$

According to the question,

0.375x + 187.5 = 0.4x + 75
0.025x = 187.5 − 75 = 112.5
x = 4500
Sum of SI = 0.4x + 0.375x + 187.5 = 0.775x + 187.5 = 3487.5 + 187.5 = Rs. 3675
Hence, option C is correct.

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2.   Total number of players = 12 + 15 + 8 + 5 = 40

The probability of selecting one class2 player = $\frac{15}{40}$

The probability of selecting one class 3 player = $\frac{8}{40}$

The reqd. probability = $\frac{15}{40} + \frac{8}{40} = \frac{23}{40}$

Hence, option C is correct.

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3.   The sum of the age of man's wife and two twin daughters = 45 × 3 = 135 years

The ratio of the age of wife and a daughter is 5 : 1

Since, the ratio is given of wife and daughter but we need to calculate the age of father i.e. man but we don't have any information about him so we cannot find his age

Hence, option E is correct.

4.   The ratio of their investments = 4 : 6 : 9

Let Geeta had invested for x months and Meeta's investments = y months

Then, at the end of 1 year, the ratio of profit = 4 × 12 : 6 × x : 9 × y = 4 : 6 : 9

4 × 12 : 6 × x = 4 : 5

By solving, x = 10 months

4 × 12 : 9 × y = 4 : 6

By solving, y = 8 months

y = x – 2 years

Therefore, Meeta's investments was 2 months less than that of Geeta's investments

Hence, option A is correct.

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5.   The area of rectangle = l × b = 14 × 12 = 168 sq. cm

The area of square = 168 + 28 = 196 sq. cm

The side of square = square root of 196 = 14 cm

Radius of incircle of a square = $\dfrac{side}{2}$ = $\dfrac{14}{2}$ = 7 cm

The reqd. area = πr^2 = $\dfrac{22}{7}$ × 7 × 7 = 154 sq.cm

Hence, option B is correct.

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6.   At present, let the age of A = 4x years then the age of B = 5x years

5 years ago, let the age of B = 3a years then the age of C = 2a years

5 years hence, C's age = 2a + 10 = 30

a = 10

5 years ago, B's age = 3a = 30 years

At present, B's age = 30 + 5 = 35 years = 5x

x = 7 years

Therefore, at present, A's age = 4x = 4 × 7 = 28 years

Hence, option B is correct.

7. Let the selling price of one shirt = Rs. x and the selling price of one trousers = Rs. y then

5x + 4y = 12000 .... (i)

$2x + y = \dfrac{1}{3} 12000 = 4000$ ....(ii)

By solving equation (i) and (ii)

$x = y = \dfrac{4000}{3}$

the selling price of 3 shirts and 3 trouserss = 3x + 3y = 4000 + 4000 = Rs. 8000

Hence, option D is correct.

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8. Let after travelling "t" hr the two bus met each other

If the bus starting from Lucknow have travelled for time "t" hr

then bus starting from Delhi will have travelled for

$(t + \dfrac{20}{60})$hr

and so the equation

$(15 \times t) + 20 \times \left(t + \dfrac{20}{60}\right) = 450$

$\Rightarrow 15t + 20t = 450 - \dfrac{20}{3}$

$\Rightarrow 35t = \dfrac{1330}{3}$

$\Rightarrow t = \dfrac{38}{3}$hr

Distance from Lucknow when the two bus will meet = (average speed of bus from Lucknow to Delhi) × (time "t" for which it travelled

$= 15 \times \dfrac{38}{3}$ km = 5 × 38 km = 190 km

Distance from Delhi when they meet

= 450km - 190 km = 260km

Hence, option A is correct.

9. Let the total units of work = 240 units then the efficiency of (A + B)

$= \dfrac{240}{30} = 8$ units per day

The efficiency of C $= \dfrac{240}{120} = -2$ units per days

The efficiency of B and C together $= \dfrac{240}{240} = 1$ unit per day

The efficiency of B = 1 – c's efficiency

1 – 2 = 3 units per day

The efficiency of A = 8 – B's efficiency = 8 – 3 = 5 units per day

The number of days A alone will take to complete the work

$= \dfrac{240}{5} = 48$ days

Hence, option D is correct.

10.

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

According to the question,

$\dfrac{2x \times 15 \times 20}{100} - \dfrac{x \times 10 \times 10}{100} = 6x - x = 5x = 2500$

x = Rs. 500

Hence, option B is correct.