SmartKeeda
The Question Bank

Presents

TestZone

India's least priced Test Series platform

JOIN

12 Month Plan
2018-19 All Test Series

@ Just

₹ 399/-
300+ Full Length Tests

- ☑ **Brilliant Test Analysis**
- ☑ **Excellent Content**
- ☑ **Unmatched Explanations**

JOIN NOW

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

Bank PO Maths Quiz 32

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

1. In a Cricket match, 5 players - A, B, C, D, and E play equal number of balls but score 48 runs, 58 runs, 98 runs, 78 runs, and 113 runs respectively. If the strike rate of all the five players together is 158 then find the number of balls played by each player?

A. 75   B. 100   C. 50   D. 125   E. None of these

2. Karina invested Rs. 50000 in a bank under simple interest. The maturity duration was 10 years and the bank had offered 10% per annum simple interest. At the end of 8 years, because of financial problem Karina withdraws all her amount but the bank gave her a lower rate of interest. If she gets Rs. 25000 less than what she would have got at the end of 10 years ,then find the lower rate of interest given by the bank?

A. 7.5%   B. 8.5%   C. 6.5%   D. 6.25%   E. None of these

3. Three friends A, B, and C entered into a business. The ratio of there respective investments was 4 : 5 : 6. At the end of 4 months from the starting A withdraws 25% of his initial investment but C puts 50% more of his initial investment. At the end of one year, B's share in total profit was Rs. 15000 then find the difference between A's share and C's share in the total profit?

A. Rs. 8400   B. Rs. 7800   C. Rs. 8100   D. Rs. 9000   E. None of these

4. The distance between Delhi and Patna is 588 km. Train P leaves from Delhi for Patna at speed of x km per hour and at the same time Train Q leaves from Patna for Delhi at speed of (x + 9) km per hour. At the end of 12 hours, they meet each other then find the speed of the train Q?

A. 23 km per hour   B. 25 km per hour   C. 20 km per hour   D. 27 km per hour   E. None of these

5. Pipes A and B together can fill a water tank in 18 hours, pipes B and C together can fill the same tank in 20 hours, and pipes A and C together can fill the same tank in 12 hours. If all the three pipes A, B, and C are opened together then they fill 51 litres of water per minute. Find the capacity of the tank (in litres)?

A. 32400   B. 34200   C. 27000   D. 30600   E. None of these

6. The radius of a cylinder is 8 cm less than its height. If the curved surface area of the cylinder is 5940 sq. cm, then what would be volume of the cylinder (in cm^3)?

A. 80280   B. 74600   C. 80190   D. 92540   E. None of these

7. To prepare Tea, Ranjita mixes water to milk in the ratio of 1 : 1. Initially, she had only 100 ml of pure milk and 5 litres of a separate solution of milk and water in which the quantity of milk was 30%. Find how much quantity from the separate solution be mixed with 100 ml of pure milk to get the desired ratio of milk and water to prepare tea.

A. 25 ml   B. 250 ml   C. 35 ml   D. 350 ml   E. None of these

8. The marked price of an article is Rs. 4200. If a shopkeeper gives 10% discount on the marked price then he earns 40% profit. At what price should the shopkeeper sell the article if he wants to earn 25% profit?

A. Rs. 3275   B. Rs. 3325   C. Rs. 3450   D. Rs. 3375   E. None of these

9. In a village, out of the total population 40% people were employed and the rest were unemployed. At the end of 4 years, when the population of the village is increased by 20%, the number of employed people was same as before. By how much percentage has unemployment increased in the village?

A. 50%   B. 60%   C. 37.5%   D. 33.33%   E. None of these

10. From a group of 4 men, 5 women and 3 children, three persons go to a party. What is the probability that either all are men or all are women?

A. $\dfrac{7}{110}$ B. $\dfrac{14}{110}$ C. $\dfrac{7}{220}$ D. $\dfrac{5}{110}$ E. None of these

Correct Answers:

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

Explanations:

1. The sum of the runs scored by all the five players together = 48 + 58 + 98 + 78 + 113 = 395 runs

The average of runs scored by all the five players together = $\dfrac{395}{5}$ = 79

Let they each played x number of balls then

158% of x = 79

$x = 79 \times \dfrac{100}{158} = 50$

= the number of balls played by each player

Hence, option C is correct.

2. The amount she would have received at the end of 10 years at the rate of 10% per annum = P + SI

$= 50000 + \dfrac{50000 \times 10 \times 10}{100}$

= 50000 + 50000

$= 100000 \quad \left(SI = \dfrac{p \times r \times t}{100}\right)$ The Question Bank

But at the end of 8 years, she received 100000 – 25000 = 75000

In which, SI = 75000 – 50000 = 25000

Let the bank had allowed R% rate of interest then

$\dfrac{50000 \times R \times 8}{100} = 25000$

16R = 100

$R = \dfrac{100}{16} = 6.25\%$

Hence, option D is correct.

3. Let the investments of A = 4x then B's investments = 5x and C's investments = 6x

At the end of 4 months from the starting A withdraws 25% of his initial investments but C puts 50% more of his initial investments

Therefore, the ratio of there share at the end of one year = 4x × 4 + [(100 − 25)% of 4x] × 8 : 5x × 12 : 6x × 4 + [(100 + 50)% of 6x)] × 8

(16x + 24x) : 60x : (24x + 72x) = 40 : 60 : 96 = 10 : 15 : 24
Let B's share = 15a then then difference between A's share and C's share = 24a − 10a = 14a

According to the question, 15a = 15000

$14a = \dfrac{15000 \times 14}{15} = 14000$

Hence, option E is correct.

---

4. The relative speed of train P and Q = x + x + 9 = 2x + 9 km per hour

We know that, distance = speed × time

532 = (2x + 9) × 12

$2x + 9 = \dfrac{588}{12} = 49$

x = 20
the speed of the train Q = 20 + 9 = 29 km per hour
Hence, option E is correct.

---

5. $\dfrac{1}{a} + \dfrac{1}{b} = \dfrac{1}{18}$ ....(i)

$\dfrac{1}{b} + \dfrac{1}{c} = \dfrac{1}{20}$ ....(ii)

$\dfrac{1}{c} + \dfrac{1}{a} = \dfrac{1}{12}$ ....(iii)

add equation (i),(ii),and (iii)

$\dfrac{2}{a} + \dfrac{2}{b} + \dfrac{2}{c} = \dfrac{1}{18} + \dfrac{1}{20} + \dfrac{1}{12} = \dfrac{10 + 9 + 15}{180} = \dfrac{34}{180}$

$\dfrac{1}{a} + \dfrac{1}{b} + \dfrac{1}{c} = \dfrac{17}{180}$

Therefore, A, B, and C together takes 180/17 hours to fill the tank
If all the three pipes A, B, and C opened together then they fill 51 litres of water per minutes In 1 hours, 51 × 60 litres

In $\dfrac{180}{17}$ hours = $\dfrac{180 \times 60}{17}$ minutes = $\dfrac{180 \times 60}{17}$ × 51 = 180 × 60 × 3 litres = 32400 litres

Hence, option A is correct.

6. Let the height of the cylinder = h cm then the radius = h − 8 cm

Curved surface area of a cylinder

$= 2\pi rh = 2 \times \dfrac{22}{7} \times (h - 8) \times h = 5940$

$h^2 - 8h = 5940 \times \dfrac{7}{22 \times 2} = 945$

$h^2 - 8h - 945 = 0$

By solving, h = 35 cm

r = 35 − 8 = 27 cm

The volume of the cylinder $= \pi r^2 h$

$= \dfrac{22}{7} \times 27 \times 27 \times 35$

$= 22 \times 27 \times 27 \times 5 = 80190 \text{ cm}^3$

Hence, option C is correct.

---

7. Let she mixes x ml of milk and water solution, then the quantity of water in x ml solution = 30% of x = 0.3x ml and the quantity of water = x − 0.3x = 0.7x

She needs a mixture of 1 : 1

Therefore, $\dfrac{100 + 0.3x}{0.7x} = \dfrac{1}{1}$

100 + 0.3x = 0.7x

0.4x = 100

$x = \dfrac{100}{0.4} = 250 \text{ml}$

Hence, option B is correct.

8.

$$SP = MP \times \frac{100 - D}{100} = 4200 \times \frac{100 - 10}{100}$$

$$= 4200 \times \frac{90}{100} = 3780$$

Profit = 40% $CP = SP \times \dfrac{100}{100 + P\%}$

$$= \frac{3780 \times 100}{100 + 40} = \frac{3780 \times 100}{140} = Rs.\ 2700$$

When he wants to earn 25% then the SP = CP $\times \dfrac{100 + P}{100} = 2700 \times \dfrac{125}{100} = Rs.\ 3375$

Hence, option D is correct.

---

9.   Let the population of the village = 100x then the number of employed people

$$= 40\% \text{ of } 100x = 40 \times \frac{100x}{100}$$

= 40x and the number of unemployed people = 100x – 40x = 60x

At the end of 4 years, the new population of village = 120% of 100x = 120x In which the number of employed people = 40x and the number of unemployed people = 120x – 40x = 80x

The %increase in unemployment $= \dfrac{(80x - 60x) \times 100}{60x} = \dfrac{2000}{60}\% = 33.33\%$

Hence, option D is correct.

---

10.   The number of ways of selecting 3 persons out of 12 persons

$$= {}^{12}C_3 = \frac{12!}{3! \times (12 - 3!)} = \frac{12!}{3! \times 9!} = \frac{10 \times 11 \times 12}{6} = 220$$

The number of ways selecting 3 men out of 4 men = ${}^{4}C_3$ = 4 ways

The probability of selection all men $= \dfrac{4}{220}$

The number of ways selecting 3 women out of 5 women = ${}^{5}C_3 = \dfrac{5!}{3! \times (5! - 3!)} = \dfrac{4 \times 5}{2} = 10$

The probability of selection all women $= \dfrac{10}{220}$

the probability that either all are men or all are women $= \dfrac{4}{220} + \dfrac{10}{220} = \dfrac{14}{220} = \dfrac{7}{110}$

Hence, option A is correct.