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 and SBI Clerk Mains Exams.

Bank PO Maths Quiz 29

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

1. The average number of books sold in a week is 244 . The average number of books sold from Monday to Thursday is 252, average number of books sold on Tuesday and Wednesday is 207. If the average number of books sold from Thursday to Sunday is 272.5, then find the number of books sold on Monday.

A. 215   B. 191   C. 204   D. 218   E. None of these

2. Manish and Pritam started a business with an investment of Rs. 5400 and Rs. 6500 respectively. After one year, Manish increased his investment by 20% while Pritam decreased his investment by 10%. If at the end of two years, the total profit in the business was Rs. 62998, then find the difference between the profit of Manish and the profit of Pritam.

A. Rs. 1284   B. Rs. 1148   C. Rs. 1570   D. Rs. 1222   E. Rs. 1420

3. The ratio of the present age of Komal and the present age of Priya is 2 : 3, respectively and the ratio of the present age of Priya and the present age of Rahul are 2 : 3 respectively. After 15 years, Rahul dies and at that time the age of Komal becomes the 7/9 of the age of Priya. Find the age of Rahul at the time of his death.

A. 90 years   B. 75 years   C. 60 years   D. 80 years   E. 100 years

4. The time taken by Manan to travel 540 km is 4.5 hours less than the time taken by Vishal. If Vishal would have increased his speed by 20% then he would have travelled the same distance in 3 hours less. Find the speed of Manan.

A. 40 km/h   B. 45 km/h   C. 50 km/h   D. 20 km/h   E. 3 km/h

5. The population of a city increases 12% every year while the population of males increases by 10% every year. The total population of the city becomes 75264 in 2 years while the total number of males in 2 years has increased by 7434. Find the number of females in the city 2 years before.

A. 25800   B. 24600   C. 22500   D. 23200   E. 28900

6. A milkman mixes water and milk in a container in the ratio 2 : 5, respectively. Initially, he sells the mixture at Rs. 30 per liter. After selling 70 liters of mixture, he mixes another 20 liters of water and then ratio of water and milk becomes 8 : 15, respectively. The new mixture is sold by the milk man at the rate of Rs. 25 per liter. If cost of milk is Rs. 27 per liter then find the profit of milkman in the whole transaction.

A. Rs. 2840   B. Rs. 2450   C. Rs. 2620   D. Rs. 2380   E. Rs. 2560

7. A cricket team of 11 members is to be selected from a group of 8 batsmen and 7 bowlers. In how many ways will the cricket team having at least 5 bowlers and at least 5 batsmen been selected?

A. 980   B. 920   C. 1040   D. 1020   E. 950

8. If a boy covers first half of a certain distance at the rate of 15 km per hour and the remaining half of the distance at the rate of 20 km per hour then he takes total 14 hours. Find the time he took to cover first half of the distance.

A. 6 hours   B. 7 hours   C. 8 hours   D. 10 hours   E. None of these

9. Bag A contains 8 red marbles and 10 green marbles & Bag B contains 10 red marbles and 13 green marbles. If a marble is transferred from bag A to bag B and a marble is drawn from bag B, then find the probability that drawn marble is red in colour?

A. 47/108   B. 22/57   C. 23/54   D. 43/108   E. 31/72

10. Sunita sold an old article at 15% loss to Vidya. Vidya repaired the article and sold it to Anamika at 27.5% profit. If Vidya sold the article without repairing, then she would have got 7.5% more profit. Find the amount spent by Vidya for repairing the article, if initially the cost price of the article was Rs. 4,000.

A. Rs. 280   B. Rs. 320   C. Rs. 150   D. Rs. 200   E. None of these

Correct Answers:

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

Explanations:

1. Total number of books sold from Monday to Thursday = 4 × 252 = 1008

Total number of books sold from Thursday to Sunday = 4 × 272.5 = 1090

Total number of books sold in week = 7 × 244 = 1708

So, number of books sold on Thursday = 1008 + 1090 − 1708 = 390

Total number of books sold on Tuesday and Wednesday = 2 × 207 = 414

So, number of books sold on Monday = 1008 − (390 + 414) = 1008 − 804 = 204

Hence, option C is correct.

2. Total investment of Manish = 5400 + 120% of 5400 = 5400 + 6480 = Rs. 11880

Total investment of Pritam = 6500 + 90% of 6500 = 6500 + 5850 = Rs. 12350

Ratio of investment of Manish and Pritam = 11880 : 12350 = 1188 : 1235

Let, profit of Manish and profit of Pritam be 1188x and 1235x respectively.

So, 2423x = 62998

$\Rightarrow$ x = 26

Required difference = 1235x − 1188x = 47x = Rs. 1222

Hence, option D is correct.

3. Let the present age of Komal and the present age of Priya be 2x and 3x respectively.
And the present age of Priya and the present age of Rahul = 2y and 3y respectively.

So, 3x = 2y

$\Rightarrow y = \dfrac{3x}{2}$

And, $\dfrac{2x + 15}{3x + 15} = \dfrac{7}{9}$

$\Rightarrow$ 18x + 135 = 21x + 105

$\Rightarrow$ 3x = 30

$\Rightarrow$ x = 10

Therefore, the age of Rahul at the time of his death = 3y + 15 = $\dfrac{3 \times 3x}{2}$ + 15 = 45 + 15 = 60 years

Hence, option C is correct.

4. Let, speed of Vishal = x km/h

Let, time is taken by Vishal to travel 540 km = 'y' hours

Then, time is taken by Manan to travel 540 km = (y − 4.5) hours

So, $\dfrac{540}{x} - \dfrac{540}{x + 0.2x} = 3$

$\Rightarrow \dfrac{648 - 540}{1.2x} = 3$

$\Rightarrow 108 = 3.6x$

$\Rightarrow x = 30$

So, time taken by Vishal = $\dfrac{540}{30}$ = 18 hours

Time is taken by Manan to travel 540 km = (y − 4.5) = 13.5 hours

Therefore, speed of Manan = $\dfrac{540}{13.5}$ = 40 km/h

Hence, option A is correct.

5. Let, total population of the city 2 years before = 'x'
And, the number of males in the city 2 years before = 'y'

So, $75264 = x \times \left(1 + \dfrac{12}{100}\right)^2$

$\Rightarrow 75264$

$\Rightarrow x = \dfrac{75264}{1.2544} = 1.2544x$

$\Rightarrow x = 60000$

And, $y \times \left\{ \left(1 + \dfrac{10}{100}\right)^2 - 1 \right\} = 7434$

$\Rightarrow 0.21y = 7434$

$\Rightarrow y = \dfrac{7434}{0.21}$

$\Rightarrow y = 35400$

Therefore, the number of females 2 years before = 60000 − 35400 = 24600

Hence, option B is correct.

6. Let, amount of milk and water mixed by milkman initially be '5x' liters and '2x' liters, respectively.

So, $\dfrac{2x - 20 + 20}{5x - 50} = \dfrac{8}{15}$

$\Rightarrow \dfrac{2x}{x - 10} = \dfrac{8}{3}$

$\Rightarrow 6x = 8x - 80$

$\Rightarrow 2x = 80$

$\Rightarrow x = 40$

Amount of mixture initially = 7x = 280 liters

Amount of milk mixed initially = 5x = 200 liters

Total cost of milk = 200 × 27 = Rs. 5400

Total selling price of 70 liters of mixture which is sold initially = 70 × 30 = Rs. 2100

Total selling price of 230 liters of mixture which is sold later = 230 × 25 = Rs. 5750

Total selling price = Rs. (2100 + 5750) = Rs. 7850

Profit = Rs. (7850 − 5400) = Rs. 2450

Hence, option B is correct.

7. **Case I:** 5 batsmen and 6 bowlers in the cricket team.

Number of ways of selection = $^8C_5 \times {}^7C_6 = 56 \times 7 = 392$

Case II: 6 batsmen and 5 bowlers in the cricket team

Number of ways of selection = $^8C_6 \times {}^7C_5 = 28 \times 21 = 588$

So total number of ways of selecting the cricket team = 392 + 588 = 980 ways

Hence, option A is correct.

8. Let total distance = 2x km then

$$\frac{x}{15} + \frac{x}{20} = 14$$

$35x = 14 \times 15 \times 20$

By solving, x = 120 km

The time he took to cover half of the distance

$$= \frac{120}{15} = 8 \text{ hours}$$

Hence, option C is correct.

---

9. Number of red marbles = 8

Number of green marbles = 10

In Bag B:

Number of red marble = 10

Number of green marbles = 13

Case I:

If red marble is transferred, then bag B will have 11 red marble and 13 green marble,

Probability that red marble is drawn

= P (red marble transfer) × P (drawing red marble)

$$= \frac{8}{18} \times \frac{11}{24} = \frac{11}{54}$$

Case II:

If green marble is transferred, then bag B will have 10 red marble and 14 green marble

Probability that red marble is drawn = P (green marble transfer) × P (drawing red marble)

$$= \frac{10}{18} \times \frac{10}{24} = \frac{25}{108}$$

So, Probability that marble drawn is red in colour $= \frac{11}{54} + \frac{25}{108} = \frac{22 + 25}{108} = \frac{47}{108}$

Hence, option A is correct.

10. Cost price of article for Sunita = Rs. 4000

Selling price of article for Sunita = 85% of 4000 = Rs. 3400

Let, amount spent by Vidya for repairing article = Rs. x

Then, cost price of article for Vidya would be Rs. (3400 + x)

Selling price of article for Vidya = 127.5% 0f (3400 + x)

Profit earned by Vidya if she sold the article without repairing = 27.5 + 7.5 = 35%

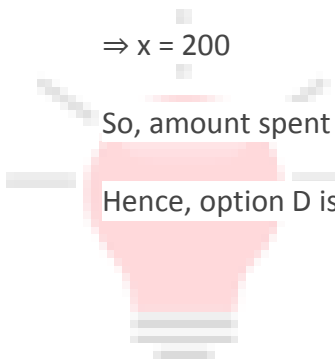Then, selling price of article if she sold the article without repairing = 135% of 3400 = Rs. 4590

Therefore, 127.5% 0f (3400 + x) = 4590

$$\Rightarrow \frac{127.5}{100} \times (3400 + x) = 4590$$

$\Rightarrow x = 200$

So, amount spent by Vidya for repairing the article = Rs. 200

Hence, option D is correct.