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

Bank PO Maths Quiz 12

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

1. The ratio of water to flour in dough is 2 : 5. While making bread, 90% of water was vapoured then 26 kg of bread was prepared. What was the quantity of flour in the dough (in kg)?

A. 20   B. 25   C. 35   D. 36   E. None of these

2. The numerical value of the speed of the train is three more than twice of the time taken by the train to cover 495 km. What is the respective ratio of the numerical value of the time taken by train to cover 825 km and the speed of the train?

A. 7 : 5   B. 2 : 3   C. 25 : 33   D. 9 : 7   E. 6 : 5

3. A boy has some number of apples and want to pack in some boxes. When he packs 5 apples or 7 apples in each box then he was left with 4 apples. However, when he packs 12 apples or 10 apples, again he was left with 4 apples. What is the least number of apples, the boy can have?

A. 809   B. 724   C. 832   D. 844   E. None of these

4. Sunil lent some amount to Poonam for 3 years at the rate of 20% per annum simple interest and the equal amount to Sabnam for 2 years at the rate of 25% per annum compound interest compounded annually. At the end of time duration, the amount received from Poonam was Rs. 5625 more than that from Sabnam. How much money did he lend to each?

A. Rs. 2,00,000   B. Rs. 1,00,000   C. Rs. 2,50,000   D. Rs. 1,50,000   E. None of these

5. Three friends, A, B, and C bought 5, 6, and 4 articles respectively. If each one had paid an equal amount because of getting some percentage of discount. If the marked price of one such article was Rs. 200 then what was the selling price these all 15 articles if the shopkeeper had earned the maximum profit?

A. Rs. 1800   B. Rs. 3000   C. Rs. 2700   D. Rs. 2100   E. Rs. 2400

6. In between Delhi and Patna, there are total 15 railway station (including both). Maximum how many numbers of different journey tickets can be issued by the authorities?

A. 105   B. 110   C. 210   D. 220   E. None of these

7. In a school, the ratio of the number of boys to the number girls is 7 : 5. When some number of boys and some number of girls left the school, then the ratio of remaining number of boys to the remaining number of girls become 7 : 5. The number of boys, who left the school was what percentage of the number of girls who left the school?

A. 150%   B. 140%   C. 58.33%   D. 112.5%   E. Can't be determined

8. In a class there are 15 students. It was to divide in two groups, A and B. The number of students in group A should be 7 and the number of students in group B should be 8. In how many ways, groups can be formed?

A. 12870 ways   B. 4290 ways   C. 17160 ways   D. 3432 ways   E. None of these

9. A and B together can complete a piece of work in 12 days but B and C together can complete the same piece of work in 40/3 days. A started the work and worked only for 5 days then C alone complete the remaining work in 100/3 days. Had A worked for 12 days then C would have taken only 24 days to complete the remaining work. The number of days taken by C alone to complete the whole work is how many more than that by B alone to complete the whole work?

A. 30 days   B. 10 days   C. 25 days   D. 15 days   E. None of these

10. The distance between a school and home is 24 km. Two persons A and B start from the home and the school at the speed of 12 km per hour and 10 km per hour respectively in the same direction and meet each other at the college. What is the distance between the school and the college? (assume that the home is before school and both are in the same straight line)

A. 144 km   B. 220 km   C. 120 km   D. 240 km   E. None of these

Correct Answers:

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

Explanations:

1. In the dough,

Let the quantity of water = 2x and the quantity of flour = 5x

According to the question,

90% of water was vapoured

(100 – 90)% of 2x + 5x = 26

0.2x + 5x = 26

5.2x = 26

X = 5

The quantity of dough = 2x + 5x = 7x = 35 kg

The quantity of flour = 5 × 35/7 = 25 kg

Hence, option B is correct.

2. Let the time taken by the train = x hours then

According to the question, speed = 2x + 3 km per hour

$$\text{Time} = \frac{\text{distance}}{\text{speed}}$$

$$x = \frac{495}{2x + 3}$$

$2x^2 + 3x - 495 = 0$

By solving, x = 15 or – 16.5
Negative value is not possible therefore, x = 15 km per hour

The speed of the train = 2x + 3 = 33 km per hour

The time taken by the train to cover 825 km = $\frac{825}{33}$ = 25 hours

The required ratio = 25 : 33
Hence, option C is correct.

3. When the total number of apples are divided by 5, 7, 12, or 10 every time remainder is 4

Therefore, the required number of apples = lcm of (5,7,12,10) + 4 = 840 + 4 = 844

Hence, option D is correct.

---

4. Let the total amount he lent to each person = Rs. x

SI @ 20% per annum at the end of 3 years

$$= \frac{P \times R \times T}{100} = \frac{x \times 20 \times 3}{100} = 0.6x$$

The total amount he received from Poonam = x + 0.6x = Rs 1.6x

CI @ 25% per annum at the end of 2 years

$$= p \left(1 + \frac{r}{100}\right)^n - p = x \left(1 + \frac{25}{100}\right)^2 - x = x \times \frac{25}{16} - x$$
$$= 1.5625x - x = Rs\ 0.5625x$$

The amount he received from Sabnam = x + 0.5625x = Rs 1.5625x

The difference = 1.6x – 1.5625x = Rs 5625

0.0375x = 5625

x = Rs 150000

Hence, option D is correct.

---

5. When they purchased the article on the marked price then
The amount paid by A = 5 × 200 = 1000
By B = 6 × 200 = 1200

By C = 4 × 200 = 800

The shopkeeper will earn maximum profit only when he offers less discount

The maximum price c can pay = 800

Therefore, to get maximum profit, all of them will have to pay Rs. 800

The SP = 800 × 3 = Rs 2400
Hence, option E is correct.

6. There are 15 railway stations on railway line between Delhi and Patna

From Delhi To Patna, the authorities can issue the number of different journey tickets between any of the two stations = $^{15}C_2$ = 15 × 7 = 105

Similarly, from Patna to Delhi it can issue 105 different tickets

The total number of maximum different tickets = 105 + 105 = 210

Hence, option C is correct.

---

7. Let the number of boys = 7x and the number of girls = 5x

Let a boys and b girls left the school then the ratio

$$= \frac{7x - a}{5x - b} = \frac{7}{5}$$

By solving, a: b = 7 : 5

The reqd. percentage = $\dfrac{7 \times 100}{5}$ = 140%

Hence, option B is correct.

---

8. The group A can be formed in,

$^{15}C_7$ ways = $\dfrac{15!}{(7! \times 8!)}$ = 6435 ways

Group B can be formed in $^{15}C_8$ ways

$= \dfrac{15!}{(8! \times 7!)}$ = 6435 ways

The required number of ways = 6435 + 6435 = 12870 ways

Hence, option A is correct.

9.

$$\frac{1}{A} + \frac{1}{B} = \frac{1}{12}$$

$$\frac{1}{B} + \frac{1}{C} = \frac{3}{40}$$

$$\frac{1}{A} + \frac{2}{B} + \frac{1}{C} = \frac{1}{12} + \frac{3}{40} = \frac{19}{120} \quad ....(i)$$

$$\frac{5}{A} + \frac{100}{3C} = 1$$

$3AC = 15C + 100A$ ----(ii)

$$\frac{12}{A} + \frac{24}{C} = 1$$

$AC = 12C + 24A$

$3AC = 36C + 72A$ -----(iii)

Equation (ii) = equation (iii)

$15c + 100a = 36c + 72a$
$28a = 21c$
a : c = 3 : 4 = The ratio of time taken
Put the value of A = 3x and C = 4x in the equation (ii) or (iii)
$3 \times 4x \times 3x = 60x + 300x$

$36 x = 360$

$x = 10$

The number of days taken by A = 3x = 30 days

The number of days taken by C = 4x = 40 days

Put the value of A and C in the equation (i)

$$\frac{1}{40} + \frac{2}{B} + \frac{1}{30} = \frac{19}{120}$$

B = 20 days

The required difference = 40 – 20 = 20

Hence, option E is correct.

10. The relative speed of A and B = 12 – 10 = 2 km per hour

$$\text{Time} = \frac{\text{distance}}{\text{speed}} = \frac{24}{2} = 12 \text{ hours}$$

It means, they meet each other after 12 hours

Home-------------------------------School----------------------------College

We need to calculate the distance between the school and the college

The distance travelled by B in 12 hours @ 10 km per hour = 12 × 10 = 120 km

Hence, option C is correct.