Mixed Maths Questions for IBPS Clerk Pre, SBI Clerk Pre and RRB Asst. Pre Exams.

Word Problems Quiz 3

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

1. A, B and C entered into a partnership with investment in the ratio 5 : 4 : 6. After one year A doubled his investment and C withdrew half of his investment amount. At the end of two years, they earned a profit of Rs.96000, find the sum of the shares of B and C in the profit.

A. Rs. 47000   B. Rs. 49000   C. Rs. 51000   D. Rs. 53000   E. None of these

2. Find the area of the circle whose radius is equal to the radius of a cylinder having height 21 cm and volume 12936 cm^3.

A. 544 cm^2 B. 196 cm^2 C. 154 cm^2 D. 616 cm^2 E. None of these

3. A bag contains 2 red, 5 green and 4 yellow balls. 4 balls are drawn at random, find the probability that out of four balls at least 3 balls are yellow.

A. $\dfrac{19}{330}$ B. $\dfrac{4}{165}$ C. $\dfrac{29}{330}$ D. $\dfrac{8}{165}$ E. None of these

4. Average of the present ages of husband, wife and their child is 38 years. At the time of birth of the child, average age of the husband and wife was 39 years. Find the present age of the child.

A. 7 years   B. 12 years   C. 9 years   D. 0 years   E. None of these

5. In a company there are 78000 employees out of which males and females are in the ratio 7 : 6. Out of the males 35% are working as HR and out of females 25% are working as HR. Find the total number of employees working as HR in the company.

A. 25700   B. 27700   C. 23500   D. 23700   E. None of these

6. A train can cross a platform of equal length in 5 minutes. It can cross a man running in the direction of the train with the speed of 2m/s in 7 minutes. Find the speed of the train (in km/h).

A. 10.8   B. 25   C. 7   D. 11.2   E. None of these

7. Cost price of two articles is Rs. 560 each. The shopkeeper sold one article at a profit of 24% and another article at a loss of 18%. Find the overall profit/loss percent.

A. 5 % profit   B. 3% loss   C. 5% loss   D. 3% profit   E. None of these

8. A can complete a piece of work in 12 days, A, B and C can complete the work in 6 days. Efficiency of B is 0.5 times the efficiency of A. In how many days C can complete the work alone?

A. 10 days   B. 16 days   C. 24 days   D. 12 days   E. None of these

9. A bag contains 7 red, 5 green and 6 blue balls. Three balls are drawn one by one at random without replacement. Find the number of ways that the first ball is red, second ball is green and third ball is blue?

A. $\dfrac{31}{512}$ B. $\dfrac{35}{816}$ C. $\dfrac{33}{713}$ D. $\dfrac{34}{812}$ E. None of these

10. In a class of 40 students and 10 teachers, each student got gifts that were 20% of total number of students and each teacher got gifts that were 15% of total number of students. How many gifts were there in total?

A. 360   B. 420   C. 380   D. 450   E. None of these

Correct Answers:

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

Explanations:

1. Let the investment of A, B and C are Rs.5x, Rs.4x and Rs.6x

Ratio of shares of A, B and C in the profit $= (5x + 5x \times 2) : (4x + 4x) : \left(6x + \dfrac{6x}{2}\right)$

= 15x : 8x : 9x = 15 : 8 : 9

Sum of the shares of B and C in the profit $= \dfrac{8 + 9}{15 + 8 + 9} \times 96000$

$= \dfrac{17}{32} \times 96000 = $ Rs. 51000

Hence, option (C) is correct.

2. Volume of cylinder = $\pi r^2 h$ = 12936

$$\Rightarrow \frac{22}{7} \times r^2 \times 21 = 12936$$

$$\Rightarrow r^2 = \frac{12936 \times 7}{22 \times 21}$$

$\Rightarrow r^2 = 196$
$\Rightarrow r = \sqrt{196}$
$\Rightarrow r = 14$ cm

Radius of the cylinder = radius of the circle = 14 cm

Area of the circle = $\pi r^2 = \frac{22}{7} \times 14 \times 14 = 616 \text{ cm}^2$

Hence, option (D) is correct.

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3.   Red = 2
Green = 5
Yellow = 4
Total = 11

Reqd. probability = $\dfrac{^4C_3 \times {}^7C_1 + {}^4C_4}{^{11}C_4}$

$$= \frac{4 \times 7 + 1}{330}$$

$$= \frac{29}{330}$$

Hence, option (C) is correct.

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4.   Let the present age of child = x years
Sum of the present ages of husband, wife and child = 3 × 38 = 114 years
Sum of the ages of husband and wife at the time of birth of the child = 2 × 39 = 78 years.
According to the question
114 − 3x = 78
$\Rightarrow$ 3x = 36
$\Rightarrow$ x = 12
Hence, age of the child = 12 years.
Hence, option (B) is correct.

5.

Number of males in the company $= \dfrac{7}{13} \times 78000 = 42000$

Number of males working as HR $= \dfrac{35}{100} \times 42000 = 14700$

Number of females in the company $= \dfrac{6}{13} \times 78000 = 36000$

Number of females working as HR $= \dfrac{25}{100} \times 36000 = 9000$

Total number of employees working as HR = 14700 + 9000 = 23700
Hence, option (D) is correct.

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6.   Let the length of the train = l metre
And the speed of the train = s m/s
According to the question
2l = s × 5 × 60
⇒ l = 150s ----- (i)
l = (s − 2) × 7 × 60
⇒ 150s = 420s − 840
⇒ 270s = 840
⇒ s $= \dfrac{840}{270}$

⇒ s = 3.11 m/s

⇒ s $= 3.11 \times \dfrac{18}{5} = 11.2$ km/h

Hence, option (D) is correct.

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7.   Cost price of both the articles = 560 × 2 = Rs.1120

Selling price of one article $= 560 \times \dfrac{124}{100} = $ Rs. 694.4

Selling price of another article $= 560 \times \dfrac{82}{100} = $ Rs. 459.2

Selling price of both the articles = 694.4 + 459.2 = Rs.1153.6
Profit = 1153.6 − 1120 = Rs.33.6

Profit percent $= \dfrac{33.6}{1120} \times 100 = 3\%$

Hence, option (D) is correct.

8.

Time taken by B to complete the work $= \dfrac{12}{0.5} = 24$ days

$\dfrac{1}{A} + \dfrac{1}{B} + \dfrac{1}{C} = \dfrac{1}{6}$

$\dfrac{1}{A} = \dfrac{1}{12}$

$\dfrac{1}{B} = \dfrac{1}{24}$

$\dfrac{1}{A} + \dfrac{1}{B} + \dfrac{1}{C} - \dfrac{1}{A} - \dfrac{1}{B} = \dfrac{1}{6} - \dfrac{1}{12} - \dfrac{1}{24}$

$\Rightarrow \dfrac{1}{C} = \dfrac{4 - 2 - 1}{24}$

$\Rightarrow \dfrac{1}{C} = \dfrac{1}{24}$

Hence, C can complete the work alone in 24 days.
Hence, option (C) is correct.

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9.   Red = 7
Green = 5
Blue = 6
Total = 18

Reqd. probability $= \dfrac{7}{18} \times \dfrac{5}{17} \times \dfrac{6}{16} = \dfrac{35}{816}$

Hence, option (B) is correct.

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10.   Gifts received by each student = 20% of total number of students i.e.
$\dfrac{20}{100} \times 40 = 8$

Gifts received by each teacher = 15% of total number of students i.e.
$\dfrac{15}{100} \times 40 = 6$

Total Gifts = 40 × 8 + 6 × 10 = 380
Hence, option (C) is correct.