Quantitative Aptitude Questions for IBPS PO Pre, IBPS Clerk, SBI PO Pre and SBI Clerk exams

SBI PO PRE MATHS QUIZ 9

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

1. A man borrows Rs. 5,000 at 20% compound rate of interest. At the end of each year he pays back Rs. 2,500. How much amount should he pay at the end of the third year to clear all his dues?

A. Rs. 3640   B. Rs. 2040   C. Rs. 2500

D. Rs. 5000   E. None of these

2. If the average age of a class is 15 (including the age of the teacher); that of the boys is 10 and if the age of the teacher is 13 more than the average age of the girls , then what is the average age of the girls, given that the number of boys and girls is the same?

A. 11   B. 12   C. 13

D. 16   E. Can't be determined

3. Shyam buys 600 laptops at Rs. 40,000 per unit from vendor A and buys 500 laptops at Rs. 35,000 per unit from vendor B and then sells all the laptops at Rs 50,000 per unit. What is the profit percentage?

A. 32.5   B. 47.5   C. 57

D. 65   E. None of these

4. The ratio of Ashok's to Bhanu's earnings is 4 : 9. If Bhanu's earnings is increased by 45%, then his total earnings becomes Rs. 33930.What is the earning of Ashok?

A. Rs. 5000

B. Rs. 5200

C. Rs. 5500

D. Rs. 8200

E. None of these

5. The perimeter of a square is 152 m. The breadth of a rectangle is one-fourth the side of the square and the length of the rectangle is thrice its breadth. What is the difference between the area of the square and the area of the rectangle (in sq.m)?

A. 1152.38

B. 1169.33

C. 1181.21

D. 1173.25

E. None of these

6. A box contains 5 pink, 3 green and 2 yellow balls. Three balls are picked up randomly. What is the probability that none of the ball drawn is green?

A. 3/16

B. 7/24

C. 5/13

D. 4/23

E. 2/23

7. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B invest Rs. 8400 for 5 months and C invest Rs. 10000 for 3 months. A wants to be the working partner, for which all partners agreed to give 5% of the profit to A before splitting the rest among themselves. The profit earned in venture was Rs. 7400. Find the difference between amount received by A and C.

A. Rs. 570

B. Rs. 730

C. Rs. 840

D. Rs. 940

E. None of these

8. A vessel contains 30 litres of milk. From this, 2 litres of the vessel contents was taken out and replaced by water. This process was repeated further two times. Now, how many litres of milk does the vessel have?

A. 25.49 litres

B. 24.39 litres

C. 24 litres

D. 23.56 litres

E. None of these

9. An exam was conducted in a state over 222 centres. The average number of applicants per centre was found to be 1560. However, it was later realized that in one centre, the number of applicants was counted as 1857 instead of 1747. What was the correct average number of applicants per centre (upto two decimals)?

A. 1557.87

B. 1558.20

C. 1558.92

D. 1559.51

E. None of these

10. 12 students working for 5 hours a day can solve a certain number of problems in 8 days. How many boys are needed to solve five times the original number of problems, if they work at 4 hours a day for 15 days?

A. 90

B. 45

C. 40

D. 100

E. 95
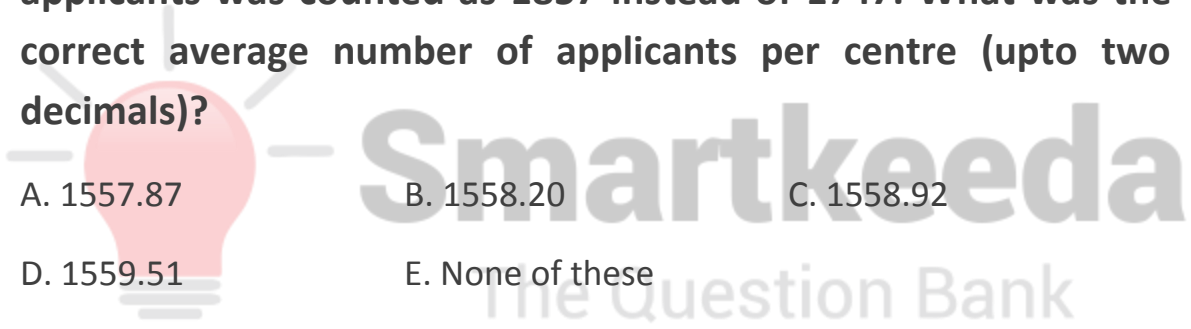
Correct answers:

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

Explanations:

1.

Amount at the end of first year is A = P $(1 + \frac{R}{100})$

= $500(1 + \frac{20}{100})$ = Rs. 6000

He pays Rs. 2500 at the end of the first year.

Thus, principal for the second year is 6000 − 2500 = Rs. 3500

Amount at the end of second year is A = 3500 $(1 + \frac{20}{100})$ = Rs. 4200

He pays Rs. 2500 at the end of the second year.

Thus, principal for the third year is 4200 − 2500 = Rs. 1700

Amount at the end of third year is A = 1700 $(1 + \frac{20}{100})$ = Rs. 2040

So the amount left to be paid in order to clear all the dues is Rs. 2040.

Hence, option B is correct.

2.

Let the number of boys = the number of girls = n

Hence, total age of boys = 10n

Let the average age of girls = x

Hence, total age of girls = nx

Total age of the class = 10n + nx + x + 13

Total number of people in the class = n + n + 1 = 2n + 1

Average age of the class = $\dfrac{(10n + nx + x + 13)}{(2n + 1)}$ = 15

Since this is a single linear equation in two variables, a unique solution can't be found.

Therefore, the average age of the girls cannot be determined.

Hence, option E is correct.

3.

Total cost incurred = (600 × 40,000) + (500 × 35,000)

= 24000000 + 17500000

= 41500000 = 41.5 million [1 million = 1000000]

Total units = 600 + 500 = 1100

Total Revenue = 1100 × 50,000 = 55 million.

Profit% = $\dfrac{\text{Revenue} - \text{Cost}}{\text{Cost}}$ × 100

= $\dfrac{55 \text{ million} - 41.5 \text{ million}}{41.5 \text{ million}}$ × 100

= $\dfrac{13.5}{41.5}$ × 100 = 32.5%

Hence, option A is correct.

4.

Let the salary of Ashok to Bhanu be 4x and 9x respectively.

Then, $9x \times \dfrac{145}{100} = 33930$

$\Rightarrow 9x \times \dfrac{33930 \times 100}{9 \times 145} = 2600$

$\therefore$ Ashok's salary = 4x = 4 × 2600 = 10400

Hence, option E is correct.

5.

Side of square = $\dfrac{\text{Perimeter}}{4} = \dfrac{152}{4} = 38$ m

$\therefore$ Area of square = $(38)^2$ = 1444 sq.m

Breadth of rectangle = $\dfrac{38}{4}$ = 9.5 m

$\therefore$ Length of rectangle = 9.5 × 3 = 28.5 m

$\therefore$ Area of Rectangle = 9.5 × 28.5 = 270.75 sq.m

$\therefore$ Required difference = 1444 − 270.75 = 1173.25 sq.m

Hence, option D is correct.

6.

Total no of balls = 5 + 3 + 2 = 10

$\therefore$ n(S) = No. of ways of drawing 3 balls out of 10 = $^{10}C_3$

Let E be the event of drawing 3 balls, none of which is green.

∴ n(E) = No. of ways of drawing 3 balls out of 7 balls = $^7C_3$

∴ P(E) = $\dfrac{n(E)}{n(S)}$ = $\dfrac{^7C_3}{^{10}C_3}$

= $\dfrac{\dfrac{7 \times 6 \times 5}{3 \times 2 \times 1}}{\dfrac{10 \times 9 \times 8}{3 \times 2 \times 1}}$ = $\dfrac{7}{24}$

Hence, option B is correct.

7.

Required ratio = 6500 × 6 : 8400 × 5 : 10000 × 3 = 13 : 14 : 10

Total Profit = Rs. 7400

As 5% of the profit is earned by A as a working partner, profit share among all of them will be = 7400 – 5% of 7400 = 7400 – 370 = Rs. 7030

∴ Profit earned by A = $\dfrac{13}{37}$ × 7030 = Rs. 2470

∴ Profit earned by C = $\dfrac{10}{37}$ × 7030 = Rs. 1900

∴ Amount received by A = 2470 + 370 = Rs. 2840

Amount received by C = Rs. 1900

∴ Required difference = 2840 – 1900 = Rs. 940

Hence, option D is correct.

8.

Amount of milk left after the third removal = $30 \times (1 - \frac{2}{30})^3$

= 24.39 litres

Hence, option B is correct.

9.

Number of applicants that have been counted extra = 1857 − 1747 = 110

Hence, decrease in average = 110/222 = 0.495

∴ Correct average = 1560 − 0.495 = 1559.505 = 1559.51

Hence, option D is correct.

10.

Work done = Number of students × Hours worked per day × Number of days worked

Here, the work to be done is 'solving n number of problems'. Since, the number of problems to be solved in the second case is five times the original number of problems to be solved it the first case, the work done in the second case is five times the work done in the first case.

Let the number of students required in the second case be x.

∴ $\frac{w}{5w} = \frac{12 \times 5 \times 8}{x \times 4 \times 15}$

x = 40

Thus, 40 students will be required.

Hence, option C is correct.