



# 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 LIC AAO Pre Exam

## LIC AAO Quant Quiz 6

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

1. If the letters of the word PREVIOUS be arranged at random, what is the probability that all the vowels come together?

- A.  $\frac{1}{8}$                       B.  $\frac{7}{8}$                       C.  $\frac{1}{14}$   
D.  $\frac{1}{2}$                       E.  $\frac{1}{16}$

2. A, B and C start running around a circular field having circumference 150 meter at the same time from the same point. Speeds of A, B and C are 2 m/minute, 2.5 m/minute and 3 m/minute. Find after how much time, they will meet again at the same point for the first time.

- A. 9 hours                      B. 7 hours                      C. 6 hours  
D. 5 hours                      E. None of these

3. Aman goes to park daily. His last week average speed with which he completed one round of the park was 47Km/h, for the first four days was 37Km/h, and that for the last four days was 52.5Km/h. Find out the time taken by Aman to travel 203 Km if he travels with the speed of the fourth day.

- A. 7 hours                      B. 8 hours                      C. 6 hours  
D. 5.5 hours                      E. None of these

4. A shopkeeper buys an article from a wholesaler. The shopkeeper marks up the price by 15% on the listed price. A person pays Rs.7590 to get it after paying sales tax at the rate of 10% on the price asked for. If shopkeeper has bought it at a discount of 20% on the listed price, then what is the profit percentage of the shopkeeper?

A. 52.56

B. 43.75

C. 37.89

D. 39.45

E. None of these

5. The sum of ages of Rahul and Ravi is equal to sum of the ages of Nitin and Nishant ten years from now. Ravi is older than Nishant by 5 years. The ratio of age of Nitin and Ravi is 3 : 2. If the sum of ages of Rahul and Nitin was 47 five years before, find the age of Rahul at present.

A. 39 years

B. 35 years

C. 37 years

D. 36 years

E. 38 years

6. In a school number of students in 6th and 7th class is in the ratio 6 : 11. If 60% of total students in class 6 are boys and 52% of total students in class 7 are boys, then find total girls in both the class together is approximately what percentage of total students in both the classes?

A. 39.4

B. 45.2

C. 49.9

D. 35.6

E. None of these

7. A, B, C, and D are four friends. In which B and C are brothers. 360 sweets are divided among them. A gets  $\frac{200}{3}$  % of B. B gets 40% of C and C gets 75% of D. Then what is the difference

between the number of sweets received by brothers and the number of sweets received by others?

- A. 44                                      B. 34                                      C. 24  
D. 14                                      E. None of these

8. A principal of Rs. 6120 becomes Rs. 8330 in 2 years when compounded annually at some rate of interest. How much will be the amount if the same principal was compounded half-yearly?

- A. Rs. 8430                                      B. Rs. 8500                                      C. Rs. 8300  
D. Rs. 8750                                      E. None of these

9. Ram starts a business with Rs. 3900. After 3 months, Shayam joins as a partner with a capital of Rs. 4200 again after some months Mohan joins as a partner with a capital of Rs. 6500. The total profit of one year is Rs.2900 but Mohan already has withdrawn Rs. 100 per month from his profit so the remaining profit was divided in the ratio of 6: 6: 1 respectively. Find for how many months does Mohan join?

- A. 3 months                                      B. 4 months                                      C. 5 months  
D. 2 months                                      E. Can't be determined

10. Two trucks 'X' and 'Z' were moving towards each other which were 490 km away initially. If the ratio of the speed of the trucks 'X' and 'Z' was 4 : 3 and the speed of the truck 'Z' was 60 km/h, what time will it take for the two trucks to meet each other?

- A. 210 min.                                      B. 240 min.                                      C. 180 min.

D. 270 min.

E. 225 min.



# Smartkeeda

The Question Bank

### Correct answers:

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

### Explanations:

1.

There are total eight letters

$$\therefore n(S) = {}^8P_8 = 8!$$

As all vowels should come together, we assume them as one letter. Here E, I, O and U together are taken as one, so the number of letters is  $4 + 1 = 5$  and it can be arranged in  ${}^5P_5 = 5!$  ways and the vowels can be arranged in  $4!$  ways among themselves

$$\therefore n(E) = 4! \times 5!$$

$$\therefore P(E) = \frac{4!5!}{8!} = \frac{4 \times 3 \times 2}{8 \times 7 \times 6} = \frac{1}{14}$$

Hence, option (C) is correct.

2.

Time taken by A to complete one round of the circular field

$$= \frac{150}{2} = 75 \text{ minutes}$$

Time taken by B to complete one round of the circular field

$$= \frac{150}{2.5} = 60 \text{ minutes}$$

Time taken by C to complete one round of the circular field

$$= \frac{150}{3} = 50 \text{ minutes}$$

$$\text{H.C.F of } 75, 60, 50 = 300 \text{ minutes} = \frac{300}{60} = 5 \text{ hours}$$

Hence, option D is correct.

**3.**

Let, Speed on the fourth day =  $x$

total speed for the first three days =  $A$

& total speed for the last three days =  $B$

Now,

$$\text{Total speed for the week, } S = 47 \times 7 = 329$$

$$\text{Total speed for the first four days} = A + x = 37 \times 4 = 148$$

$$\text{Total speed for the last four days} = B + x = 52.5 \times 4 = 210$$

According to the question,

$$A + x + B = S$$

$$\Rightarrow (A + x) + (B + x) - x = 329$$

$$\Rightarrow 148 + 210 - x = 329$$

$$\Rightarrow x = 358 - 329$$

$$\Rightarrow x = 29\text{Km/h}$$

$$\text{Therefore, time taken to travel } 203\text{km} = \frac{203}{29} = 7 \text{ hours}$$

Hence, option A is correct.

**4.**

Let the listed price = Rs.100

$$\text{CP of shopkeeper} = 100 - 20 = \text{Rs.}80$$

$$\text{Marked price by shopkeeper} = 100 + 15 = \text{Rs.}115$$

Now,

$$115 = 7590 \times \frac{100}{110} = 6900$$

$$\Rightarrow 80 = \frac{6900}{115} \times 80 = \text{Rs.}4800$$

$$\text{CP of shopkeeper} = \text{Rs.}4800$$

$$\text{Profit} = 6900 - 4800 = \text{Rs.}2100$$

$$\text{Profit \%} = \frac{2100}{4800} \times 100 = 43.75\%$$

Hence, option B is correct.

**5.**

Let, age of Nitin =  $3x$

Thus, age of Ravi =  $2x$



And age of Nishant =  $2x - 5$

Let, age of Rahul =  $a$

Now, according to the question,

$$a - 5 + 3x - 5 = 47$$

$$\Rightarrow a = 57 - 3x$$

Now,

$$57 - 3x + 2x = 3x + 10 + 2x - 5 + 10$$

$$\Rightarrow 6x = 42$$

$$\Rightarrow x = 7$$

Therefore, age of Rahul,  $a = 57 - 3 \times 7 = 57 - 21 = 36$  years

Hence, Option D is correct.

**6.**

Let total students in class 6th and class 7th is  $6x$  and  $11x$  respectively.

Total students in both classes =  $6x + 11x = 17x$

$$\text{Girls in class 6} = 6x \times \frac{40}{100} = \frac{240x}{100} = 2.4x$$

$$\text{Girls in class 7} = 11x \times \frac{48}{100} = \frac{528x}{100} = 5.28x$$

So total girls =  $2.4x + 5.28x = 7.68x$

$$\text{Reqd. \%} = \frac{7.68x}{17x} \times 100 \Rightarrow 45.2\% \text{ (approx.)}$$

Hence, option B is correct.

**7.**

$$A : B = 2 : 3$$

$$B : C = 2 : 5$$

$$C : D = 3 : 4$$

$$A : B : C : D = 12 : 18 : 45 : 60 = 4 : 6 : 15 : 20$$

The number of sweets received by brothers together

$$= \frac{21}{45} \times 360 = 168$$

The number of sweets received by others together =  $360 - 168 = 192$

$$\text{Required difference} = 192 - 168 = 24$$

Hence, option C is correct.

**8.**

Now the formula for amount on compound interest basis can be given as

$$A = P \left(1 + \frac{R}{100}\right)^t$$

Where A = Amount

P = Principal

R = Rate of interest

T= Time period

Now as per our data P = 6120, A = 8330, t = 2 years

$$\therefore 8330 = 6120 \left(1 + \frac{R}{100}\right)^2$$

$$\therefore \frac{8330}{6120} = \left(1 + \frac{R}{100}\right)^2$$

$$\therefore \frac{49}{36} = \left(1 + \frac{R}{100}\right)^2$$

$$\therefore \frac{7}{6} = 1 + \frac{R}{100}$$

$$\therefore R = \frac{100}{6} = 16.67\%$$

Now the amount when the same principal is compounded half-yearly for the same time period can be given as

$$A = 6120 \left[1 + \left(\frac{16.67}{200}\right)^{2 \times 2}\right]$$

$$\therefore A = 6120 \times 1.377$$

$$\therefore A = \text{Rs. } 8430$$

Hence, option A is correct.

**9.**

The ratio of Ram's: Shayam's: Mohan's share =  $3900 \times 12 : 4200 \times 9 : x \times 6500$  (let Mohan joins for x months) =  $36 : 36 : 5x$  ..... (i)

The total money, Mohan has withdrawn from his profit in  $x$  months =  $100 \times X = 100X$

Remaining =  $2900 - 100x$ , it was divided in the ratio of  $6 : 6 : 1$  respectively

So Ram's share =  $\frac{6}{13} \times (2900 - 100x) =$  Shayam's share

Mohan's share =  $\frac{1}{13} \times (2900 - 100x)$

If Mohan had not withdraw Rs. 100 per month then his profit would have been

$\frac{1}{13} \times (2900 - 100x) + 100x$

From the equation (i), Ram's share: Mohan's share

$$= \frac{36}{5x} = \frac{\frac{6}{13} \times (2900 - 100x)}{\frac{1}{13} \times (2900 - 100x) + 100x}$$

By solving,  $x = 3$

Hence, option A is correct.

## 10.

Given, two trucks 'X' and 'Z' were moving towards each other which were 490 km away initially.

The ratio of the speed of the trucks 'X' and 'Z' was respectively 4: 3 and the speed of the truck 'Z' was 60 km/h.

So, the speed of truck 'X'

$$= 60 \times \frac{4}{3} = 80 \text{ km/h.}$$

As, the both trucks were moving towards each other, the relative speed will be =  $(80 + 60) \text{ km/h} = 140 \text{ km/hr.}$

∴ The two trucks meet each other in

$$= \frac{490}{140} = 3.5 \text{ hours}$$

= 210 minutes.

Hence, option A is correct.



# Smartkeeda

The Question Bank



**SmartKeeda**

The Question Bank

प्रस्तुत करते हैं

# TestZone

भारत की सबसे किफायती टेस्ट सीरीज़

अभी  
जुड़ें

**12 Month Plan**

2018-19 All Test Series

@ Just

₹ **399/-**

300+ फुल लेन्थ टेस्ट

- श्रेष्ठ विश्लेषण
- उत्कृष्ट विषय सामग्री
- बेजोड़ व्याख्या

अभी जुड़ें