Mixed Maths Questions for LIC AAO Exam.

LIC AAO Maths Quiz 14

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

1. Wangdu purchased 20 identical items from a wholesaler. He marked the price of each item at 110% of the cost price. However, on Diwali, he gave a discount of 10% to all customers. Phunshuk bought 2 items at Rs. 396 on Diwali. What was the marked price of each item? (Assume that Wangdu sells only these 20 items.)

A. Rs. 400 B. Rs. 200 C. Rs. 220 D. Rs. 440 E. None of these

2. The average weight of employees of a company is 72.5 kg while the weight of their immediate senior is 66.66% less than the average weight of the employees. If the weight of immediate senior is x kg, what is the total weight of the employees?

A. 2.25x B. 6x C. 4.5x D. Can't be determined E. None of these

3. The probability that Arjun hits the fish's eye in one try is 1/2. How many tries does he need so that the probability of hitting the fish's eye atleast once is 0.9 ?

A. 4 B. 3 C. 2 D. 1 E. None of these

4. A man swimming downstream covers a distance of 30 km in 2 hours. When he swims back, he takes 6 hours to cover the same distance. If the speed of the current is half that of the man, what is the speed of the man? (in km/h)

A. 15 B. 28 C. 5 D. 20 E. None of these

5. A man is 3 times faster than a woman to finish a certain piece of work. If a woman can finish the work in 20 minutes, then how long will it take to finish the work if both man and woman start working together?

A. 8 minutes B. 5 minutes C. 10 minutes D. Can't be determined E. None of these

6. In a society, 30% of the men are more than 25 year old and 80% of the men are at most 50 year old. 20% of all men watch Sony Tv. If 20% of the men above the age of 50 watch Sony Tv, what percentage of men are at most 50 year old but do not watch Sony Tv?

A. 20% B. 64% C. 80% D. 16% E. None of these

7. Intercity and Taj are trains operating between Delhi and Agra. Starting from New Delhi and going towards Agra, Intercity travels at 72 kmph. Taj, traveling from Agra to New Delhi, is 750 m long and travels at 54 kmph. Both the trains meet at 5:00 p.m. in the evening and take 150 seconds to cross each other completely. How long (in m) is Intercity?

A. 3000 B. 3250 C. 3750 D. 4500 E. None of these

8. Badshah is thrice the age of Raftar and Honey's age is the sum of ages of Raftar and Badshah. Six years from now, Honey's age will be 75% more than his current age. What is the product of their ages now?

A. 324 B. 144 C. 96 D. 108 E. None of these

9. Abdul and Kalam enter into a partnership. Abdul initially invests Rs. 10,000 but withdraws Rs. 2,000 at the end of 4 months. After 5 more months, he withdraws another Rs.3000. Kalam retains his investment throughout the year. If Kalam gets Rs. 9,600 as profit share out of the total profit of Rs. 19,100, how much does he invest each month?

A. Rs. 7200 B. Rs. 10800 C. Rs. 9600 D. Rs. 8000 E. None of these

10. Shantanu borrowed Rs. 2.5 lakh from a bank to purchase one car. If the rate of interest be 6% per annum compounded annually, what payment he will have to make after 2 years 6 months?

A. Rs. 189325 B. Rs. 186325 C. Rs. 389325 D. Rs. 289325 E. None of these

Correct Answers:

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

Explanations:

1. Since Phunshuk bought 2 items for Rs. 396,

SP per item = $\frac{396}{2}$ = Rs. 198

Since this SP is after a 10% discount on MP, MP of each item 90% of MP = SP

MP = $\frac{SP}{0.9} = \frac{198}{0.9}$ = Rs. 220

Hence, option C is correct.

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2. Weight of immediate senior = 66.66% less than average weight of employees = 33.33% of average weight of employees.

∴ Average weight of employees = 3 × weight of immediate senior = 3x

Since number of employees in the office is not known, total weight can't be determined.

Hence, option D is correct.

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3. Since P (hitting the target in one try) = 0.5, P (not hitting the target in one try) = 1 − 0.5 = 0.5

Let Arjun have tried n times.

∴ P (Arjun hit atleast once) = 1 − P (Arjun did not hit in any try) = 1 − $(0.5)^n$

∵ P (Arjun hit atleast once) ≥ 0.9; 1 − $(0.5)^n \geq 0.9$

∴ $(0.5)^n \leq 0.1$

This is first satisfied for n = 4 i.e. $(0.5)^4 = 0.0625$

Therefore, Arjun needs atleast four tries.

Hence, option A is correct.

4. As per the given information, we get

Upstream speed = $\frac{30}{6}$ = 5 km/hr

Downstream speed = $\frac{30}{2}$ = 15 km/hr

∴ Speed of the boat = $\frac{5 + 15}{2}$ = 10 km/hr

Hence, option E is correct.

5.

A woman can finish $\frac{1}{20}$ of the work in 1 minute

A man can finish $\frac{3}{20}$ of the work in 1 minute

both start working together then in one minute they will finish

$\left(\frac{1}{20} + \frac{3}{20}\right)$ i.e. $\frac{1}{5}$ of the work

So, they will take 5 minutes to finish the work.

Hence, option B is correct.

6. Let total men in the society = 100

∴ Number of men above 50 years of age = 20% of 100 = 20

20% of these men watch Sony Tv.

∴ Number of men who are above 50 years of age and watch Sony Tv = 20% of 20 = 4

20% of all men watch Sony Tv. Hence, 20 men watch Sony Tv.

∴ Number of men who watch Sony Tv but are at most 50 year old = 20 − 4 = 16

Number of men who are at most 50 year old = 80% of 100 = 80

∴ Number of men who are at most 50 year old but do not watch Sony Tv = 80 − 16 = 64

∴ Reqd. % = $\frac{64}{100} \times 100$ = 64%

Hence, option B is correct.

7. Here the actual time of meeting i.e. 5:00 p.m. is irrelevant while the actual time to cross each other is given i.e. 150 seconds.

Since the trains move in opposite directions, relative speed = 72 + 54 = 126 kmph.

Since the length is given in m and time in sec, relative speed = $126 \times \frac{5}{18} = 35$ m/s

Let the length of Intercity be x m

$\therefore 150 = \frac{(750 + x)}{35}$

$\therefore$ 5250 = 750 + x i.e. x = 4500

Hence, option D is correct.

8. Let's Raftar be A, Badshah be B and Honey be C.

B = 3A and C = A + B

$\therefore$ C = A + 3A = 4A

$\therefore$ Product of ages = (A)(3A)(4A) = $12A^3$

Six years from now, C's age will be 75% more than his current age.

$\therefore$ C + 6 = C + 0.75C = 1.75C

$\therefore$ 0.75C = 6 i.e. C = 8

$\therefore$ A = 8/4 = 2

$\therefore$ Product of ages = $12 \times (2)^3 = 12 \times 8 = 96$

Hence, option C is correct.

9. Kalam 's profit = 9600 and total profit = 19100
$\therefore$ Abdul's profit = 19100 − 9600 = 9500
$\therefore$ Ratio of profits = ratio of investments = 9600 : 9500 = 96 : 95

Abdul invests Rs. 10,000 for 4 months, Rs. 8,000 for next 5 months and Rs. 5,000 for last 3 months.

$\therefore$ Abdul's total investment = 4(10000) + 5(8000) + 3(5000) = 40000 + 40000 + 15000 = Rs. 95,000

$\therefore$ Kalam's total investment = $\frac{96}{95} \times 95000$ = Rs. 96,000

$\therefore$ Kalam's monthly investment = $\frac{96000}{12}$ = Rs. 8,000

Hence, option D is correct.

10. CI for 2 years 6 months at the rate of 6, applying the net% effect for first 2 years

$= 6 + 6 + \frac{6 \times 6}{100} = 12.36\%$

Rate of interest for 6 months $= \frac{6}{12} \times 6 = 3\%$

For next 6 months $= 12.36 + 3 + \frac{12.36 \times 3}{100} = 15.36 + 0.37\% = 15.73\%$

Here, we can see that in 2 years 6 months the given compound rate of interest is approximate 15.73%.

Now, 115.73% of 250000 $= \frac{115.73 \times 250000}{100} = 289{,}325.$

Hence, option E is correct.