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 Exam.

LIC AAO Maths Quiz 10

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

1. Rinku bought a number of mangoes at Rs. 30 for one mango and the same number of other variety of mangoes at Rs. 50 for one mango. If he wants to gain a profit of 16.67% on the average price of both the varieties of mango then at what price per mango should he sell? (approximately)

A. Rs. 46.67   B. Rs. 48.50   C. Rs. 40   D. Rs. 42   E. Rs. 47.33

2. A person lends some money at 8% per annum simple interest for three years. At the end of third year, he receives Rs. 250 as interest. How much more money (approximately) he would have received if the rate of interest were 12% per annum compounded annually?

A. Rs. 172   B. Rs. 162   C. Rs. 152   D. Rs. 192   E. Rs. 182

3. At 9 : 00 PM Rajdhani express leaves Delhi for Patna at the rate of 96 km/hr. At 11 : 00 PM on the same day Shatabdi express leaves Patna for Delhi at the rate of 49 km/hr. At what time both the train will collide? (it is given that the distance between Delhi and Patna is 540 km and both the trains are running on the same track)

A. 01 : 24 AM   B. 02 : 30 AM   C. 00 : 48 AM   D. 01 : 48 AM   E. None of these

4. At present, the respective ratio of the sum and the difference of the age of son and grandfather is 5 : 4. Five years later, the respective ratio of the age of son and grandfather becomes 1 : 5. What is the difference between the age of grandfather and that of son?

A. 50 years   B. 45 years   C. 42 years   D. 48 years   E. None of these

5. The respective ratio of milk and water in a solution is 7 : 9. After adding 8 litres another solution in which concentration of milk is 50%, the respective ratio of milk and water becomes 4 : 5. Find the original quantity of milk present in the solution?

A. 28 litres   B. 35 litres   C. 56 litres   D. 21 litres   E. None of these

6. The cost price of three tables and two chairs is Rs. 5710 and the cost price of five tables and 3 chairs is Rs. 9240. Find the difference between the cost price of a table and that of a chair?

A. Rs. 520   B. Rs. 510   C. Rs. 500   D. Rs. 530   E. None of these

7. The ratio of the amount for two years under compound interest annually and for one year under simple interest is 9 : 7. If the rate of interest is same, then the value of rate of interest is:

A. 28.57%   B. 29.02%   C. 29.76%   D. 29.57%   E. None of these

8. Anurag walked 13 km to reach the bus stand from his home, then he boarded a bus whose average speed was 55 kmph and thus he reached his office. In this way he took a total time of 2.5 hours. If the average speed of the entire journey was 36 kmph then the average speed of walking is?

A. 11.8 kmph   B. 11.6 kmph   C. 12.1 kmph   D. 11.4 kmph   E. None of these

9. A drum contains 60 litres of petrol. From this drum 6 litres of petrol was taken out and replaced by kerosin. This process was repeated further two times. How much petrol is now contained by the drum?

A. 40.84 litres   B. 41.65 litres   C. 42.94 litres   D. 43.74 litres   E. None of these

10. The area of a circular plot is 5544 sq. cm. If the diagonal of a square is equal to the radius of the circular plot then find the difference between the area of square and the area of circular field?

A. 4662 sq. cm.   B. 1764 sq. cm.   C. 3780 sq. cm.   D. 882 sq. cm.   E. None of these

Correct Answers:

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

Explanations:

1. Let Rinku bought total 2 mangoes, one for Rs. 30 and other for Rs. 50 then the average price of both mangoes

= Rs. $\dfrac{80}{2}$ = Rs. 40

Now he wants to gain 16.67% = $\left(\dfrac{1}{6}\right)$ % on Rs. 40

The selling price = $40 \times \dfrac{(100 + 16.67)}{100}$

= $40 \times \dfrac{7}{6}$ = 46.67 approximately

Hence, option A is correct.

2. Let the principal = Rs. P Then SI for 3 years @ 8% per annum

$$= \frac{P \times R \times T}{100} = \frac{P \times 8 \times 3}{100} = 250$$

P = Rs. 1041.67 approximately

CI for 3 years @ 12% per annum on 1041.67

$$CI = P \left(1 + \frac{R}{100}\right)^N - P$$

$$= 1041 \left(1 + \frac{12}{100}\right)^3 - 1041.67$$

= Rs. (1463.47 – 1041.67) = Rs. 421.8

The required difference = Rs. (421.8 – 250) = Rs. 171.8 = Rs. 172 approximately

Hence, option A is correct.

---

3. The total distance travelled by Rajdhani express till 11: PM = 96 × 2 = 192 Km

Remaining distance = (540 – 192) Km = 348 Km

The relative speed = (96 + 49) = 145 km/hr The time when both train will collide

$$= \frac{348}{145} = 2.4 \text{ hours} = 2 \text{ hours } 24 \text{ mins}$$

Time = 11:00 PM + 2 hours 24 minutes = 01: 24 AM

Hence, option A is correct.

---

4. The age of grandfather = x years
And the age of son = y years According to the question,

$$\frac{(x + y)}{(x - y)} = \frac{5}{4}$$

By Solving we get,

$$\frac{x}{y} = \frac{9}{1}$$

Let us assume x = 9z and y = z

Then, $\frac{(9z + 5)}{(z + 5)} = \frac{5}{1}$

=> z = 5
the required difference = x – y = 9z – z = 8z = 40 years.
Hence, option E is correct.

5. The respective ratio of milk and water in a solution is 7 : 9,

in another mixture, quantity of milk = 50% of 8 litres = 4 litres and hence the quantity of water = 8 − 4 = 4 litres

Let the quantity of milk in original mixture = 7x litres and the quantity of water = 9x litres

Then according to the question,

$$\frac{(7x + 4)}{(9x + 4)} = \frac{4}{5}$$

By solving, x = 4
The original quantity of milk = 7x = 7 × 4 = 28 litres
Hence, option A is correct.

---

6. Let the cost price of a table = Rs. x
CP of one chair = Rs. y
According to the question,
3x + 2y = 5710 .....(i)
5x + 3y = 9240 .... (ii)
By solving,
X = 1350
Y = 830
The required difference = Rs. (1350 − 830) = Rs.520
Hence, option A is correct.

---

7. Let amount = Rs. P, and rate of interest = r %

After two years when interest is compounded, amount $= P \left(1 + \frac{r}{100}\right)^2$

After one years when interest is simple, amount $= P \left(1 + \frac{r}{100}\right)$

According to question the ratio of the amount for two years under compound interest annually and for one year under simple interest is 9 : 7

$$\frac{P \left(1 + \frac{r}{100}\right)^2}{P \left(1 + \frac{r}{100}\right)} = \frac{9}{7}$$

$$1 + \frac{r}{100} = \frac{9}{7}$$

$$\frac{r}{100} = \frac{2}{7}$$

$$r = \frac{200}{7} = 28.57\%$$

Hence, option A is correct.

8. Total Distance = 36 × 2.5 = 90km

Distance covered by bus = 90 − 13 = 77 km

Time taken by bus to cover the journey of 77 km $= \dfrac{77}{55} = 1.4$ hr

Since Anurag walked 13 km in (2.5 − 1.4) = 1.1 hr

The average walked speed by Anurag $= \dfrac{13}{1.1} = 11.8$ kmph

Hence, option A is correct.

---

9. Amount of petrol left after 3 operations

$= 60 \left(1 - \dfrac{6}{60}\right)^3$

$= 60 \times \dfrac{9}{10} \times \dfrac{9}{10} \times \dfrac{9}{10} = 43.74$ litres

Hence, option D is correct.

---

10. Area of the circular plot = A = πr^2 = 5544, $r^2 = 42^2$

Radius of the circle = 42 cm = diagonal of the square

Area of the square = (diagonal of the square)^2 ÷ 2 = $(42)^2$ ÷ 2 = 882 sq. cm

The required difference = 5544 − 882 = 4662 sq. cm

Hence, option A is correct.