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Maths Questions for CLAT Exam.

Directions: Read the following Questions carefully and choose the right answer:

1. A sum of money lent at simple interest amounts to Rs. 900 in 2 years and Rs. 950 in 3 years. Find the sum?

A. Rs. 800   B. Rs. 820   C. Rs. 825   D. Rs. 850

2. The cost price of 36 books is equal to the selling price of 30 books, find the gain percent.

A. 10%   B. 15%   C. 20%   D. 30%

3. Two trains travel in the same direction running at 40 km/hour and 20 km/hour respectively. The faster train completely passes a man sitting in the slower train in 5 seconds. The length of the faster train is:

A. $23\frac{2}{9}$ m   B. 27 m   C. $27\frac{7}{9}$ m   D. 23 m

4. The milk and water in a mixture are in the ratio 7 : 5. When 15 liters of water are added to it, the ratio of milk and water in the new mixture becomes 7 : 8. The total quantity of water in the new mixture is

A. 35 liters   B. 40 liters   C. 60 liters   D. 96 liters

5. LCM of two numbers is 450 and their HCF is 10. If one number is 50, the other number will be:

A. 35   B. 90   C. 100   D. 105

6. The radius of a wheel is 21 cm. How many revolutions will it make in travelling 924 meters? (π = 22/7)

A. 7   B. 11   C. 200   D. 700

7. Seven years ago B's age was twice of A's age. If the ratio of their present ages is 7 : 4, what is the sum of their present ages?

A. 125 years   B. 84 years   C. 77 years   D. 96 years

8. 25% of employees pay tax in the year 2008. Non-tax paying employees are 30000. The total number of employees is :

A. 31160   B. 64750   C. 40000   D. 66775

9. 12 Kg of Rice costing Rs. 30 per kg is mixed with 8 kg of rice costing Rs. 40 per kg. The average per kg price of mixed rice is

A. Rs. 32   B. Rs. 33   C. Rs. 34   D. Rs. 36

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10. A boat running downstream covers a distance of 20 km in 2 hrs. While it covers the same distance upstream in 5 hrs. Then speed of boat in still water is

A. 7 km/hr   B. 8 km/hr   C. 9 km/hr   D. 10 km/hr

Correct Answers:

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

Explanations:

1.   The sum of money becomes 900 in 2 years & 950 in 3 years

So, from 2nd to 3rd year S.I. = Rs. 50

As. S.I. Remains Same every year,

hence the principal was = Rs. (900 – 100) = Rs. 800

Hence, option A is correct.

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2.   Let the C.P. of 1 book = Rs. 1

So, C.P. of 36 books = Rs. 36

As. C.P. of 36 books = S.P. of 30 books

So, S.P. of 30 books = Rs. 36

& we know, C.P. of 30 books = Rs. 30

% profit = $\dfrac{36 - 30}{30} \times 100$

$\Rightarrow \dfrac{600}{30} = \dfrac{60}{3} = 20\%$

Hence, option C is correct.

3. Relative speed = 40 − 20 = 20 kmph

20 kmph = $20 \times \dfrac{5}{18}$ m/s

Length of faster train = Speed × time = $\dfrac{20 \times 5}{18} \times 5$

= $27\dfrac{7}{9}$ meter

Hence, option C is correct.

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4. Let initial quantity of milk and water be 7x and 5x respectively.
When 15 liters of water added ratio becomes 7/8

$\Rightarrow \dfrac{7x}{5x + 15} = \dfrac{7}{8}$

⇒ 56x = 35x + 105
⇒ 56x − 35x = 105
⇒ 21x = 105

$\Rightarrow x = \dfrac{105}{21} = 5$

⇒ x = 5
Initial quantity of water ⇒ 5x = 5 × x = 25
New quantity of water ⇒ 25 + 15 ⇒ 40 liters
Hence, option B is correct.

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5. Given,

LCM = 450
HCF = 10
One number = 50

To find: Second number

Let the second be X
LCM × HCF = 1st number × 2nd number
Putting the values
450 × 10 = 50 × X
X = 90
Hence, option B is correct.

6. Circumference of wheel = 2πr

$$= 2 \times \frac{22}{7} \times 21 \text{ cm} = 132 \text{ cm}$$

∴ Number of revolutions $= \dfrac{92400 \text{ cm}}{132 \text{ cm}} = 700$

Hence, option D is correct.

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7. **Approach I:**

Given,

Ratio of B's & A's respective age $= \dfrac{7}{4}$

Let's B's age = 7x and A's age = 4x
As per the question,
(7x − 7) = 2(4x − 7)
⇒ 7x − 7 = 8x − 14
⇒ x = 7 ∴ x = 7
∴ B's present age = 7 × 7 = 49 years and A's present age = 4 × 7 = 28 years
∴ Sum of their ages = 49 + 28 = 77 years.
Intuitive Approach: The only option which is completely divisible by the sum of the terms of the given ratio (7 + 4 = 11) is 77 (option C).
Therefore, option C is the correct answer.

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8. Let the total number of employees be x.

$$\therefore x \times \frac{75}{100} = 30000$$

$$\Rightarrow x = \frac{30000 \times 100}{75} = 40000$$

Hence, option C is correct.

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9. Average cost price of 20 kg of mixed rice

$$\Rightarrow \text{Rs. } \frac{12 \times 30 + 8 \times 40}{12 + 8}$$

$$\Rightarrow \text{Rs. } \frac{360 + 320}{20}$$

$$\Rightarrow \text{Rs. } \frac{680}{20} = \text{Rs. } 34$$

Hence, option C is correct.

10. Let the speed of boat in still water be x kmph and that of stream be y kmph.

$$\therefore \frac{20}{x + y} = 2, \frac{D}{\text{Speed of downstream}} = T$$

x + y = 10 ....(i)

$$\& \frac{20}{x - y} = 5, \frac{D}{\text{Speed of upstream}} = T$$

x − y = 4 ....(ii)

Adding eq. (i) and (ii)

x + y = 10
<u>x − y = 4</u>
2x = 14
x = 7
So the speed of boat in still water is 7 kmph
Hence, option A is correct.

Hence, option C is correct.