Maths Questions for CLAT Exam

CLAT Maths Quiz 30

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

1. A tree increases annually by 1/8 th of its current height. How tall will it become after 2 years if it stands today 64 cm high?

A. 81 cm

B. 75 cm

C. 78 cm

D. 70 cm

2. If the cost price of 50 oranges is equal to the selling price of 40 oranges, then the profit percent is:

A. 10%

B. 20%

C. 25%

D. 35%

3. A train moving at a rate of 36 km/hr crosses a standing man in 10 seconds. It will cross a platform 55 meters long, in

A. 6 seconds

B. 15 1/2 seconds

C. 7 seconds

D. 5 1/2 seconds

4. In an examination, a student had to obtain 33% of the maximum marks to pass. He got 125 marks and failed by 40 marks. The maximum marks will be:

A. 100

B. 175

C. 250

D. 500

5. Q is a point in the interior of a rectangle ABCD. If QA = 3cm, QB = 4cm and QC = 5cm then the length of of QD is

A. 3√2

B. 5√2

C. √34

D. √41

6. Of the three numbers whose average is 80, the first in one-fourth of the sum of other two numbers. Then first number is

A. 40

B. 42

C. 45

D. 48

7. A takes three times as long as B and C together to do a job. B takes four times as long as A and C together to do the work. If all the three, working together can complete the job in 24 days, then the number of days, A alone will take to finish the job is.

A. 100

B. 96

C. 95

D. 90

8. Sheena invested a sum of money at an annual simple interest rate of 10%. At the end of four years the amount invested plus the interest earned was Rs. 770. The amount invested was

A. 550

B. 680

C. 650

D. 750

9. One type of liquid contains 25% of milk, the other contains 30% of milk. A container is filled with 6 parts of the first liquid and 4 parts of the second liquid. The percentage of milk in the mixture is:

A. 27%

B. 31%

C. 29%

D. 33%

10. The ratio of two numbers is 5 : 9 and their differences is 128. The smaller of the two number is

A. 115

B. 125

C. 160

D. 135

Correct Answers:

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

Explanations:

1. Height of tree initially = 64 cm

Height of tree after 1st year $= 64 + \frac{1}{8}$ of $64 = 64 + 8 = 72$ cm

Now, Height of tree is 72

Height of tree after the 2nd year $= 72 + \frac{1}{8}$ of $72 = 72 + 9$ cm

$= 81$ cm

Hence, option A is correct.

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

So, C.P. of 40 oranges = 40

C.P. of 50 oranges = 50

Given, S.P. of 40 oranges = C.P. of 50 oranges = 50 Rs.

So, C.P. of of 40 oranges = 40

S.P. of 40 oranges = 50

$$\text{Profit \%} = \frac{SP - CP}{CP} \times 100$$

$$= \frac{50 - 40}{40} \times 100$$

$$= \frac{10}{40} \times 100 = 25\%$$

Hence, option C is correct.

3. $S = \frac{D}{T}$

Let the length of train be x.

so, 36 km/h = $36 \times \frac{5}{18} = 10$ m/s

putting value in formula

$10 = \frac{x}{10}$

x = 100 meter.

Now, Time to cross 55 meter platform

$T = \frac{D}{S} = \frac{100 + 55}{100} = \frac{155}{10} = \frac{31}{2}$

$= 15\frac{1}{2}$

Hence, option (B) is correct.

4. As 33% is passing percentage

so,

If student get

125 marks + 40 marks = 33% of max.

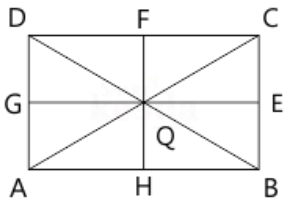
⇒ 165 = 33% of total

Total $\times \frac{33}{100} = 165$

Total = $\frac{165 \times 100}{33} = 165 = 500$

Hence, option D is correct.

5.



As, we know $QD^2 + QB^2 = QA^2 + QC^2$

$QD^2 + 16 = 9 + 25$

$QD^2 = 18$

$QD = 3\sqrt{2}$ cm

Hence, option (A) is correct.

6. **l**et the three numbers be A, B & C

⇒ As. Avg. of there 3 numbers is 80

so, $\frac{A + B + C}{3} = 80$

⇒ A + B + C = 240 **.....(i)**

Now, we know

$A = \frac{1}{4}(B + C)$

so, 4A = B + C **.....(ii)**

putting (ii) in eq. (i)

A + 4A = 240

5A = 240

A = 48

So, the first number is 48.

Hence, option D is correct.

7. Time taken by B and C = x days (let)

∴ Time taken by A = 3x days

∴ Part of work done by A, B and C in 1 day

$= \frac{1}{x} + \frac{1}{3x} = \frac{3+1}{3x} = \frac{4}{3x}$

$\therefore \frac{4}{3x} = \frac{1}{24} \Rightarrow 3x = 4 \times 24$

$\Rightarrow x = \frac{4 \times 24}{3} = 32$ days

∴ Time taken by A = 32 × 3 = 96 days

Hence, option B is correct.

8. **Method I:** Interest Rate per annum = 10%

Therefore, for 4 years the interest will be 10 × 4 = 40%

Given, Amount = 770 = Principal + Interest = 100% + 40% = 140%

Let the principal be x,

140% of x = 770

$x = \frac{770 \times 100}{140} = 550$

Method II:

Let the principal be x,

than simple interest = (770 – x)

we know,

$$\text{S.I.} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}$$

$$\text{S.I.} = \frac{x \times 10 \times 4}{100}$$

$\Rightarrow 100\,(770 - x) = x \times 40$

$\Rightarrow 77000 - 100x = 40x$

$\Rightarrow 140x = 77000$

$$x = \frac{7700}{14} = 550$$

$x = 550$

So, the amount invested is Rs. 550.

Hence, option A is correct. is correct.

9. Milk in mixture $= 6 \times \frac{25}{100} + 4 \times \frac{30}{100} = \frac{270}{100}$

$$\text{Reqd. \%} = \frac{\text{\% of milk in the mixture}}{\text{total parts of the liquid}} \times 100$$

$$= \frac{\frac{270}{100}}{6 + 4} \times 100 = 27\%$$

Hence, option (A) is correct.

10. Let the numbers be 5x and 9x respectively.

Now, difference between the no. is 128

$\Rightarrow 9x - 5x = 128$

$\Rightarrow 4x = 128$

$$\Rightarrow x = \frac{128}{4} = 32$$

So, the lower no. is ⇒ 5x = 5 × 32 = 160

Hence, option C is correct.