Maths Questions for CLAT Exam

CLAT Maths Quiz 25

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

1. Find the compound interest on Rs. 20,000 at the rate of 40% compounded yearly for 1.5 years?

A. Rs. 4200

B. Rs. 13600

C. Rs. 5000

D. Rs. 5400

2. Working 5 hours a day, Anu can complete a work in 8 days and working 6 hours a day, Bablu can complete the same work in 10 days. Working 4 hours a day, they can jointly complete a work in how many days?

A. 3 days

B. 6 days

C. 4 days

D. 8 days

3. A number consists of two digits. If the number formed by interchanging the digits is added to original number, the resulting number (i.e. the sum) must be divisible by

A. 11

B. 9

C. 5

D. 3

4. The sum of the present ages of a father and his son is 100 years. 5 Years ago their ages was in the ratio of 2 : 1. The ratio of the age of father and son after 20 years will be

A. 15 : 13

B. 17 : 11

C. 11 : 19

D. 20 : 23

5. A shopkeeper sold a shirt at Rs. 300 after giving 10% discount on labelled price. Had he not given the discount, he would have earned a profit of 15% on the cost price. What was the cost price of the shirt?

A. Rs. 250

B. Rs. 260

C. Rs. 270

D. Rs. 290

6. A train passes a 100 m long tunnel in 30 seconds and a man standing on a platform in 10 seconds. Find the speed of the train ?

A. 50 meters

B. 60 meters

C. 70 meters

D. 80 meters

7. If a number P is divided by 228 then we get 4 as remainder. If the P4 is divided by 19, what will be the remainder?

A. 9

B. 3

C. 4

D. 6

8. What part of ditch 24 meter long, 16.5 metre broad and 4 meter deep can be filled by the sand got by digging a cylindrical tunnel of diameter 4 meter and length 56 meter. (use π = 22/7)

A. $\frac{3}{7}$

B. $\frac{4}{9}$

C. $\frac{4}{5}$

D. $\frac{7}{3}$

9. Price of rice is increased by 25%. then find the ratio between reduction in consumption and original consumption if the expenditure on rice is same as before?

A. 2 : 4

B. 1 : 5

C. 3 : 7

D. 4 : 5

10. The average of marks in English for 10 students is 60. Later it was discovered that in case of two students the marks were misread 56 as 65 and 63 as 36. The correct average is

A. 61

B. 61.2

C. 62.2

D. 61.8

Correct Answers:

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

Explanations:

1.

$$CI = 20000 \times \left(1 + \frac{40}{100}\right)^{1} \times \left(1 + \frac{20}{100}\right)^{1} - 20000$$

$$= 20000 \times [(1.4 \times 1.2) - 1]$$

$$= 20000 \times (1.68 - 1)$$

$$= 20000 \times 0.68$$

$$= 13600$$

Hence, option (B) is correct.

2. Working 5 hours a day Anu complete a work in 8 days.

i.e. Anu can complete a work in total 40 hours.

Working 6 hours a day Bablu complete a work in 10 days.

i.e. Bablu can complete a work in total 60 hours.

1 hour work of Anu and Bablu together.

$$\Rightarrow \frac{1}{40} + \frac{1}{60} = \frac{60 + 40}{2400} = \frac{100}{2400} = \frac{1}{24}$$

Hence, Anu and Bablu together can finish the work in 24 hours.

So, If they together work for 4 hours daily the total 24 hours work will be finished in 6 days.

Hence, option (B) is correct.

3. Let the number be 10x + y

After interchanging the digits, the number obtained = 10y + x.

As per question

Resulting number = 10x + y + 10y + x

= 11x + 11y = 11 (x + y)

Which is exactly divisible by 11.

so 11 is the answer.

Hence, option (A) is correct.

4. Let the present ages of father and son be x and y. given, x + y = 100

⇒ x = 100 – y .....(i)

Five years ago, their ages was in ratio of 2 : 1

$$\Rightarrow \frac{x-5}{y-5} = \frac{2}{1}$$

x – 5 = 2y – 10

2y – x – 5 = 0

x – 2y + 5 = 0.....(ii)

putting (i) in eq. (ii)

100 – y – 2y + 5 = 0

100 – 3y + 55 = 0

105 = 3y

$$y = \frac{105}{3} = 35$$

Putting value of y in eq. (i)

$x = 100 - 35 = 65$

So, the ratio of present ages of father & son

$\Rightarrow \frac{x}{y} = \frac{65}{35}$

After 20 years, ratio

$\Rightarrow \frac{x + 20}{y + 20}$

$\Rightarrow \frac{65 + 20}{35 + 20} = \frac{85}{55} = \frac{17}{11}$

$\{x : y \Rightarrow 17 : 11\}$

Hence, option (B) is correct.

5. Let C.P. of shirt be x.

Marked price $= \frac{115x}{100}$

Discount of 10% is given on the marked price,

therefore, $\frac{90}{100} \times \frac{115x}{100} = 300$

$x = \frac{300 \times 10 \times 100}{115 \times 9}$

$= \frac{100 \times 100 \times 10}{3 \times 115}$

$x = 290$ (approx.)

Hence, option (D) is correct.

6. Let the length of the train be x meters.

$$\text{Speed of train} = \frac{\text{Distance travelled}}{\text{Time taken}}$$

In case, train is passing a standing man,

$$\text{Speed of train} = \frac{\text{Length of train}}{\text{Time}}$$

$$S_T = \frac{x}{10} \text{ m/sec} \qquad \textbf{.....(i)}$$

In case the train passes a tunnel

$$\text{Speed of train} = \frac{\text{Length of train + length of tunnel}}{\text{Time taken}}$$

$$S_T = \frac{x + 100}{30} \qquad \textbf{.....(ii)}$$

Both speed are equal

So,

$$\frac{x}{10} = \frac{x + 100}{30}$$

$$30x = 10x + 1000$$

$$20x = 1000$$

$$x = \frac{1000}{20} = 50 \text{ meters}$$

Hence, option (A) is correct.

7. Given number = P

According to the question,

$P = 228Q + 4$ (Where Q is quotient)

$= 19 \times 12Q + 4$

So, when P_4 will be divided by 19, it will give the same remainder as 4^4 is divided by 19.

$4^4 = 256 = 19 \times 13 + 9$ (remainder)

So, P^4 will be divided by 19 then remainder will be 9.

Hence, option (A) is correct.

8. Volume of sand taken out = $\pi r^2 h$

$= \frac{22}{7} \times (\frac{4}{2})^2 \times 56$

$= 22 \times 4 \times 8 = 704\ m^3$

Volume of ditch = $24 \times 16.5 \times 4m^3 = 1584$.

So, part of ditch filled

$\Rightarrow \frac{704}{1584} \Rightarrow \frac{352}{792} \Rightarrow \frac{176}{396}$

$\Rightarrow \frac{88}{198} \Rightarrow \frac{44}{99} \Rightarrow \frac{4}{9}$

Hence, option (B) is correct.

9. The increased price = $\frac{125}{100}$ of the initial price

Therefore, the household must now consume 100/125 of the original consumption

So, the deduction in consumption

$\Rightarrow (1 - \frac{100}{125})$ of original consumption

$= (\frac{125 - 100}{125})$ of original consumption

$= \frac{25}{125}$ or original consumption

$= 1 : 5$

Hence, option (B) is correct.

10. Total marks obtained by 10 students = 60 × 10 = 600.

As, In this total, 65 is included instead of 56 and 36 included instead of 63

∴ Correct total marks = 600 – 65 + 56 – 36 + 63 = 618

Therefore, correct average = $\frac{618}{10}$ = 61.8

Hence, option (D) is correct.