Q.1 Study the following table and answer the question:

Percentage of marks obtained by six students A, B, C, D, E and F in five subjects.

Subjects					
	English	Math	Science	Hindi	Social Studies
Students	(Out of 50)	(Out of 150)	(Out of 80)	(Out of 75)	(Out of 100)
A	70	90	65	64	88
В	84	92	75	68	49
С	66	80	85	80	84
D	62	74	75	88	60
Е	54	64	55	72	85
F	72	84	65	60	65

Total marks obtained by student E in all the five subjects are?

Ans

X 1. 340

X 2. 316

X 3. 330

√ 4. 306

Question ID: 81616113789
Status: Answered
Chosen Option: 4

Q.2 Triangle ABC is right angled at B and D is a point of BC such that BD = 5 cm, AD = 13 cm and AC = 37 cm, then find the length of DC in cm.

Ans

X 1. 5

√ 2. 30

X 3. 25

X 4. 35

Question ID : 81616112874
Status : Answered
Chosen Option : 2

Q.3 A certain sum is divided among A, B, C and D such that the ratio of the shares is A:B:C:D=4:12:30:45. If the difference between the shares of A and D is ₹5,535, then the total sum (in ₹) is:

Ans

√ 1. 12285

X 2. 12785

X 3. 11000

X 4. 13550

Question ID : **81616113672** Status : **Answered**

Q.4 A tank is filled in 4 hours by three pipes A, B and C. The pipe C is $1\frac{1}{2}$ times as fast as B and B is 3 times as fast as A. How many hours will pipe A alone take to fill the tank?

Ans

- X 1. 15
- 2. 34
- X 3. 17
- X 4. 30

Question ID: 81616113270

Status: Answered

Chosen Option: 2

Q.5 The speed of a motorboat in still water is 20 km/h. It travels 150 km downstream and then returns to the starting point. If the round trip takes a total of 16 hours, what is the speed (in km/h) of the flow of river?

- X 1. 6
 - X 2. 8
 - X 3. 4
 - **4.** 5

Question ID: 81616113675

Status: Answered

Chosen Option: 4

Q.6 A shopkeeper marks an article at a price such that after giving a discount of x%, he gains 20%. If the cost price and the marked price of the article are ₹920 and ₹1472 respectively, then what is the value of x?

- Ans X 1. 20
 - X 2. 30
 - √ 3. 25
 - X 4. 18

Question ID: 81616113669

Status: Answered

Chosen Option: 3

Simplify the following expression:

$$\left(\frac{3}{4} - \frac{1}{4} \div \frac{1}{4} \text{ of } \frac{2}{5}\right) \div \left(\frac{3}{4} \div \frac{2}{3} \text{ of } \frac{3}{5}\right)$$

- \times 1. $\frac{32}{75}$
- \checkmark 2. $-\frac{14}{15}$
- \times 3. $-\frac{70}{27}$
- \times 4. $\frac{14}{75}$

Question ID: 81616112859 Status: Answered

Q.8 By mistake, the reciprocal of a positive fraction got typed in place of itself, and thereby its value got reduced by $\frac{175}{4}$ %. What was the value of the fraction?

Ans

- \times 1. $\frac{3}{4}$
- **X** 2.
- **√** 3. -
- \times 4. $\frac{1}{2}$

Question ID : 81616113266

Status : Answered

Chosen Option: 3

Q.9

Simplify:
$$\frac{(\sin\theta+\sec\theta)^2+(\cos\theta+\csc\theta)^2}{(1+\sec\theta\csc\theta)^2}$$
, $0^\circ<\theta<90^\circ$

Ans

- X 1. -1
- **X** 2. 2
- **√** 3. 1
- X 4. 0

Question ID : 81616112574

Status : Answered

Chosen Option: 3

Q.10 If $x^4 - 62x^2 + 1 = 0$, where x > 0, then the value of $x^3 + x^{-3}$ is:

Ans X 1. 512

X 2. 500

X 3. 364

4. 488

Question ID: 81616113678

Status : Answered

Chosen Option: 4

Q.11 The surface area of a cube is 13.5 m^2 . What is the length (in m) of its diagonal?

Ans

 \times 1. 2 $\sqrt{3}$

 \checkmark 2. 1.5 $\sqrt{3}$

X 3. 2

X 4. 1.5

Question ID : 81616112868

Status : Answered

Q.12 Given that $x^8 - 34x^4 + 1 = 0$, x>0. What is the value of $(x^3 - x^{-3})$?

Ans

- 1. 14
- X 2. 16
- X 3. 12
- X 4. 18

Question ID: 81616113275 Status: Answered Chosen Option: 1

Q.13 In a circle with centre O, points A, B, C and D in this order are concyclic such that BD is a diameter of the circle. If ∠BAC = 22°, then find the measure (in degrees) of ∠COD.

- Ans X 1. 158
 - X 2. 79
 - X 3. 68
 - 4. 136

Question ID: 81616112872 Status: Answered Chosen Option: 4

Q.14 What is the average of numbers from 1 to 50 which are multiples of 2 or 5? (correct to one decimal place)

- X 1. 26.4
- X 2. 25.9
- √ 3. 25.8
- X 4. 25.4

Question ID: 81616112860 Status: Answered Chosen Option: 3

If $\frac{\sin\theta + \cos\theta}{\sin\theta - \cos\theta} = 5$, then the value of $\frac{4\sin^2\theta + 3}{2\cos^2\theta + 2}$ is:

- \times 1. $\frac{75}{17}$
- X 2. 1/2
- \times 3. $\frac{3}{2}$
- √ 4.

 √ 75

 34

Question ID: 81616113585 Status: Answered Chosen Option: 4

Q.16 Triangle ABC is right angled at B. BD is an altitude intersecting AC at D. If AC = 9 cm and CD = 3 cm, then find the measure of AB (in cm).

Ans

$$\times 1.6\sqrt{3}$$

Question ID: 81616112875 Status: Answered Chosen Option: 2

If $\sec 31^{\circ} = x$, then $\sin^2 59^{\circ} + \frac{1}{\sec^2 31^{\circ}} - \frac{1}{\sin^2 59^{\circ} \csc^2 59^{\circ}}$ is equal to:

$$\times$$
 1. $\frac{x^2-2}{x^2}$

$$\checkmark$$
 2. $\frac{2-x^2}{x^2}$

$$X$$
 3. $\frac{x^2-2}{x}$

$$\times$$
 4. $\frac{2-x^2}{x}$

Question ID: 81616113280 Status: Answered

Chosen Option: 2

Q.18 In the table, the production and the sale (in 1000 tonnes) of a certain product of a company over 5 years is given.

years	Production	Sale
	(in 1000 tonnes)	(in 1000 tonnes)
2015	1250	1000
2016	1400	1290
2017	1450	1100
2018	1500	1450
2019	1600	1390

In which year(s) the production increases by more than 10% of that in the previous year?

X 4. 2019

Question ID: 81616112982 Status: Answered

Q.19 In a circle with centre O, a diameter AB is produced to a point P lying outside the circle and PT is a tangent to the circle at a point C on it. If ∠BPT=28°, then what is the measure of ∠BCP?

Ans

√ 2. 31°

X 3. 28°

X 4. 62°

Question ID: 81616113277

Status : Answered

Chosen Option: 2

Q.20 If a nine-digit number 769 8x138y is divisible by 72, then the value of $\sqrt{4x+y}$ is:

Ans

Question ID: 81616113262

Status : Answered

Chosen Option: 2

Q.21

What is the coefficient of x^2 in the expansion of $\left(5 - \frac{x^2}{3}\right)^3$?

Ans

$$\times$$
 1. $-\frac{5}{3}$

$$\times$$
 4. $-\frac{25}{3}$

Question ID : 81616112869 Status : Answered

Chosen Option: 3

Q.22 What is the difference between the compound interest (in ₹) compounded yearly and compounded half yearly for 18 months at 20% per annum on a sum of ₹12,000?

Ans

Question ID: 81616113269

Status : Answered

Q.23 Study the following table and answer the question:
Percentage of marks obtained by six students A, B, C, D, E and F in five subjects.

Subjects					
	English	Math	Science	Hindi	Social Studies
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C	66	80	85	80	84
D	62	74	75	88	60
E	54	64	55	72	85
F	72	84	65	60	65

The total marks obtained by students C, D and F in Science is what percent more than the total marks obtained by B in Science, Hindi and Social Studies?

Ans

X 1 10.5

X 2. 12.2

X 3. 11.1

4. 12.5

Question ID : 81616113791 Status : Answered

Chosen Option : 4

Q.24 Table shows District-wise data of number of primary school teachers posted in schools of a city.

Study the table and answer the question:

District	Male teachers	Female teachers
East	1650	2375
North	1075	2651
West	1280	1520
South	1170	1085
Central	690	859

What is the difference between the total number of male teachers in the districts East, North, West taken together and the total number of female teachers in the districts East and South?

Ans

X 1. 735

√ 2. 545

X 3. 771

X 4. 110

Question ID : 81616112980 Status : Answered

Q.25 A shopkeeper sold an article for ₹455 at a loss (in ₹). If he sells it for ₹490, then h loss. At what price (in ₹) should he sell the article to gain 25%?	e would gain an amount four times the
Ans × 1. 575	
× 2. 115.50	
→ 3. 577.50	
× 4. 570.50	
	Question ID : 81616112863 Status : Answered
	Chosen Option : 3

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