

Q.1 If x and y are real numbers such that $x^2 + (x - 2y - 1)^2 = -4y(x + y)$, then the value $x - 2y$ is

- Ans
- ✓ 1. 1
 - ✗ 2. 2
 - ✗ 3. -1
 - ✗ 4. 0

Question Type : MCQ

Question ID : 48916814965

Option 1 ID : 48916836597

Option 2 ID : 48916836599

Option 3 ID : 48916836598

Option 4 ID : 48916836596

Status : Not Answered

Chosen Option : --

Q.2 Let n be the least positive integer such that 168 is a factor of 1134^n . If m is the least positive integer such that 1134^m is a factor of 168^m , then $m + n$ equals

- Ans
- ✗ 1. 24
 - ✗ 2. 12
 - ✗ 3. 9
 - ✓ 4. 15

Question Type : MCQ

Question ID : 48916814886

Option 1 ID : 48916836346

Option 2 ID : 48916836345

Option 3 ID : 48916836344

Option 4 ID : 48916836343

Status : Not Answered

Chosen Option : --

Q.3 If $\sqrt{5x+9} + \sqrt{5x-9} = 3(2 + \sqrt{2})$, then $\sqrt{10x+9}$ is equal to

- Ans
- ✗ 1. $3\sqrt{31}$
 - ✗ 2. $2\sqrt{7}$
 - ✓ 3. $3\sqrt{7}$
 - ✗ 4. $4\sqrt{5}$

Question Type : MCQ

Question ID : 48916814734

Option 1 ID : 48916835801

Option 2 ID : 48916835802

Option 3 ID : 48916835799

Option 4 ID : 48916835800

Status : Not Answered

Chosen Option : --

Q.4 If x and y are positive real numbers such that $\log_x(x^2 + 12) = 4$ and $3 \log_y x = 1$, then $x + y$ equals

- Ans 1. 10
 2. 68
 3. 20
 4. 11

Question Type : **MCQ**

Question ID : **48916814895**

Option 1 ID : **48916836379**

Option 2 ID : **48916836380**

Option 3 ID : **48916836382**

Option 4 ID : **48916836381**

Status : **Not Answered**

Chosen Option : --

Q.5 The number of integer solutions of equation $2|x|(x^2 + 1) = 5x^2$ is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 3

Given --

Answer :

Question Type : **SA**

Question ID : **48916816328**

Status : **Not Answered**

Q.6 The equation $x^3 + (2r + 1)x^2 + (4r - 1)x + 2 = 0$ has -2 as one of the roots. If the other two roots are real, then the minimum possible non-negative integer value of r is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 2

Given --

Answer :

Question Type : **SA**

Question ID : **48916815399**

Status : **Not Answered**

Q.7 Let α and β be the two distinct roots of the equation $2x^2 - 6x + k = 0$, such that $(\alpha + \beta)$ and $\alpha\beta$ are the distinct roots of the equation $x^2 + px + p = 0$. Then, the value of $8(k - p)$ is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 6

Given --

Answer :

Question Type : **SA**

Question ID : **48916815391**

Status : **Not Answered**

Q.8 In an examination, the average marks of 4 girls and 6 boys is 24. Each of the girls has the same marks while each of the boys has the same marks. If the marks of any girl is at most double the marks of any boy, but not less than the marks of any boy, then the number of possible distinct integer values of the total marks of 2 girls and 6 boys is

- Ans 1. 21
 2. 19
 3. 20
 4. 22

Question Type : **MCQ**
Question ID : **48916815762**
Option 1 ID : **48916838965**
Option 2 ID : **48916838968**
Option 3 ID : **48916838967**
Option 4 ID : **48916838966**
Status : **Not Answered**
Chosen Option : --

Q.9 The salaries of three friends Sita, Gita and Mita are initially in the ratio 5 : 6 : 7, respectively. In the first year, they get salary hikes of 20%, 25% and 20%, respectively. In the second year, Sita and Mita get salary hikes of 40% and 25%, respectively, and the salary of Gita becomes equal to the mean salary of the three friends. The salary hike of Gita in the second year is

- Ans 1. 26%
 2. 30%
 3. 28%
 4. 25%

Question Type : **MCQ**
Question ID : **48916815853**
Option 1 ID : **48916839301**
Option 2 ID : **48916839303**
Option 3 ID : **48916839304**
Option 4 ID : **48916839302**
Status : **Answered**
Chosen Option : 1

Q.10 The minor angle between the hours hand and minutes hand of a clock was observed at 8:48 am. The minimum duration, in minutes, after 8.48 am when this angle increases by 50% is

Ans

✓ 1. $\frac{24}{11}$

✗ 2. $\frac{36}{11}$

✗ 3. 4

✗ 4. 2

Question Type : MCQ

Question ID : 48916815709

Option 1 ID : 48916838763

Option 2 ID : 48916838766

Option 3 ID : 48916838765

Option 4 ID : 48916838764

Status : Not Answered

Chosen Option : --

Q.11 Brishti went on an 8-hour trip in a car. Before the trip, the car had travelled a total of x km till then, where x is a whole number and is palindromic, i.e., x remains unchanged when its digits are reversed. At the end of the trip, the car had travelled a total of 26862 km till then, this number again being palindromic. If Brishti never drove at more than 110 km/h, then the greatest possible average speed at which she drove during the trip, in km/h, was

Ans

✗ 1. 90

✗ 2. 80

✓ 3. 100

✗ 4. 110

Question Type : MCQ

Question ID : 48916815785

Option 1 ID : 48916839059

Option 2 ID : 48916839060

Option 3 ID : 48916839057

Option 4 ID : 48916839058

Status : Not Answered

Chosen Option : --

Q.12 Gita sells two objects A and B at the same price such that she makes a profit of 20% on object A and a loss of 10% on object B. If she increases the selling price such that objects A and B are still sold at an equal price and a profit of 10% is made on object B, then the profit made on object A will be nearest to

- Ans 1. 42%
 2. 49%
 3. 45%
 4. 47%

Question Type : MCQ
Question ID : 48916814989
Option 1 ID : 48916836684
Option 2 ID : 48916836687
Option 3 ID : 48916836685
Option 4 ID : 48916836686
Status : Answered
Chosen Option : 4

Q.13 A mixture P is formed by removing a certain amount of coffee from a coffee jar and replacing the same amount with cocoa powder. The same amount is again removed from mixture P and replaced with same amount of cocoa powder to form a new mixture Q. If the ratio of coffee and cocoa in the mixture Q is 16 : 9, then the ratio of cocoa in mixture P to that in mixture Q is

- Ans 1. 4 : 9
 2. 1 : 3
 3. 5 : 9
 4. 1 : 2

Question Type : MCQ
Question ID : 48916815789
Option 1 ID : 48916839075
Option 2 ID : 48916839076
Option 3 ID : 48916839073
Option 4 ID : 48916839074
Status : Not Answered
Chosen Option : --

Q.14 Anil invests Rs. 22000 for 6 years in a certain scheme with 4% interest per annum, compounded half-yearly. Sunil invests in the same scheme for 5 years, and then reinvests the entire amount received at the end of 5 years for one year at 10% simple interest. If the amounts received by both at the end of 6 years are same, then the initial investment made by Sunil, in rupees, is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 20808

Given --
Answer :

Question Type : SA
Question ID : 48916815419
Status : Not Answered

Q.15 The amount of job that Amal, Sunil and Kamal can individually do in a day, are in harmonic progression. Kamal takes twice as much time as Amal to do the same amount of job. If Amal and Sunil work for 4 days and 9 days, respectively, Kamal needs to work for 16 days to finish the remaining job. Then the number of days Sunil will take to finish the job working alone, is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 27

Given --

Answer :

Question Type : SA

Question ID : 48916816343

Status : Not Answered

Q.16 Arvind travels from town A to town B, and Surbhi from town B to town A, both starting at the same time along the same route. After meeting each other, Arvind takes 6 hours to reach town B while Surbhi takes 24 hours to reach town A. If Arvind travelled at a speed of 54 km/h, then the distance, in km, between town A and town B is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 972

Given 972

Answer :

Question Type : SA

Question ID : 48916816346

Status : Answered

Q.17 A quadrilateral ABCD is inscribed in a circle such that $AB : CD = 2 : 1$ and $BC : AD = 5 : 4$. If AC and BD intersect at the point E, then AE : CE equals

Ans 1. 2 : 1

2. 1 : 2

3. 8 : 5

4. 5 : 8

Question Type : MCQ

Question ID : 48916813912

Option 1 ID : 48916833222

Option 2 ID : 48916833223

Option 3 ID : 48916833220

Option 4 ID : 48916833221

Status : Not Answered

Chosen Option : --



Q.18 Let C be the circle $x^2 + y^2 + 4x - 6y - 3 = 0$ and L be the locus of the point of intersection of a pair of tangents to C with the angle between the two tangents equal to 60° . Then, the point at which L touches the line $x = 6$ is

- Ans
- 1. (6, 6)
 - 2. (6, 4)
 - 3. (6, 8)
 - 4. (6, 3)

Question Type : MCQ

Question ID : 48916814891

Option 1 ID : 48916836366

Option 2 ID : 48916836365

Option 3 ID : 48916836364

Option 4 ID : 48916836363

Status : Not Answered

Chosen Option : --

Q.19 In a right-angled triangle ΔABC , the altitude AB is 5 cm, and the base BC is 12 cm. P and Q are two points on BC such that the areas of ΔABP , ΔABQ and ΔABC are in arithmetic progression. If the area of ΔABC is 1.5 times the area of ΔABP , the length of PQ, in cm, is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 2

Given --

Answer :

Question Type : SA

Question ID : 48916816339

Status : Not Answered

Q.20 For some positive and distinct real numbers x, y and z , if $\frac{1}{\sqrt{y}+\sqrt{z}}$ is the arithmetic mean of $\frac{1}{\sqrt{x}+\sqrt{z}}$ and $\frac{1}{\sqrt{x}+\sqrt{y}}$, then the relationship which will always hold true, is

- Ans
- 1. x, y and z are in arithmetic progression
 - 2. \sqrt{x}, \sqrt{y} and \sqrt{z} are in arithmetic progression
 - 3. y, x and z are in arithmetic progression
 - 4. \sqrt{x}, \sqrt{z} and \sqrt{y} are in arithmetic progression

Question Type : MCQ

Question ID : 48916815757

Option 1 ID : 48916838945

Option 2 ID : 48916838948

Option 3 ID : 48916838947

Option 4 ID : 48916838946

Status : Not Answered

Chosen Option : --



Q.21 The number of all natural numbers up to 1000 with non-repeating digits is

Ans 1. 738

2. 648

3. 504

4. 585

Question Type : **MCQ**

Question ID : **48916816323**

Option 1 ID : **48916840886**

Option 2 ID : **48916840887**

Option 3 ID : **48916840888**

Option 4 ID : **48916840889**

Status : **Not Answered**

Chosen Option : --

Q.22 A lab experiment measures the number of organisms at 8 am every day. Starting with 2 organisms on the first day, the number of organisms on any day is equal to 3 more than twice the number on the previous day. If the number of organisms on the n^{th} day exceeds one million, then the lowest possible value of n is

Case Sensitivity: No

Answer Type: Equal

Possible Answer: 19

Given --

Answer :

Question Type : **SA**

Question ID : **48916816351**

Status : **Not Answered**

