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## SECTION-I <br> زبإِاوّل










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\begin{align*}
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20. 20

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& \text { نسانُّكِّبُ } \tag{4}
\end{align*}
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\begin{aligned}
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\end{aligned}
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## SECTION - II

## MATHEMATICS

26. $\frac{1}{a-b}+\frac{1}{b-a}=$ ?
(1) $\frac{1}{a+b}$
(2) $\frac{(a-b)+(a-b)}{(a-b)(b-a)}$
(3) 1
(4) 0
27. The LCM of two co-prime numbers is 910 and their sum is 83 . What will be the difference between the two numbers?
(1) 57
(2) 60
(3) 81
(4) 75
28. Two right angled scalene triangles are joined along their hypotenuse. Which of the following figures will be formed? (Select two correct options)
(1) Rhombus
(2) Kite
(3) Rectangle
(4) Trapezium
29. $60 l$. milk contains $15 \%$ fats and $40 l$. milk contains $8 \%$ fats. If these two milk are mixed together, then what will be the $\%$ of fats contained in the mixture?
(1) $87.8 \%$
(2) $12.2 \%$
(3) $1220 \%$
(4) $122 \%$
30. Find the value of : $\frac{27^{1 / 3} \times 36^{1 / 2} \times 81^{1 / 4}}{25^{1 / 2} \times 400^{1 / 2}}$
(1) 64
(2) 5.4
(3) 0.54
(4) 0.064

## SPACE FOR ROUGH WORK

## SECTION-II

ريانى
(2) $\frac{1}{a+b}$

$$
\begin{equation*}
\frac{(a-b)+(a-b)}{(a-b)(b-a)} \tag{1}
\end{equation*}
$$

$$
\frac{1}{a-b}+\frac{1}{b-a}=1: 26
$$

$$
\frac{1}{a+b}
$$

$$
\begin{equation*}
1 \quad(3) \tag{4}
\end{equation*}
$$




زوزلْت
بيّنِ
متنطيل


12.2\%
87.8\%
(1)
$122 \%$
(4)
$1220 \%$
5.4
(2) $\frac{27^{1 / 3} \times 36^{1 / 2} \times 81^{1 / 4}}{25^{1 / 2} \times 400^{1 / 2}}$

$$
0.064
$$

(4)
64
0.54
(1)
(3)


$$
\begin{align*}
& 60  \tag{1}\\
& 57  \tag{2}\\
& 75 \\
& \text { (4) } \\
& 81 \\
& \text { (3) }
\end{align*}
$$

31. In a circle, the measure of a major arc is $60^{\circ}$ more than double the measure of its minor arc. What will be the measure of its major arc?
(1) $100^{\circ}$
(2) $300^{\circ}$
(3) $220^{\circ}$
(4) $260^{\circ}$
32. Write the degree of the product of $\left(x^{3}-27\right)\left(x^{2}+2 x+2\right)$
(1) 6
(2) 5
(3) 3
(4) 2
33. Which of the following options indicate the volume of a sphere?
(1) $\frac{1}{3} \times 2 \pi r^{3}$
(2) $\frac{r}{3} \times 4 \pi r^{2}$
(3) $\frac{4}{3} \times r^{3}$
(4) $\frac{4 \pi}{3} \times r^{2}$
34. Rohit purchased a 3 year old used machine from Mohit for Rs. 8,57,375. If the rate of depreciation is $5 \%$, for how much did Mohit must have bought the machine ?
(1) Rs. $10,00,000$
(2) Rs. $12,00,000$
(3) Rs. $8,00,000$
(4) Rs. $9,00,000$
35. Which of the following are the factors of a trinomial? $(a-b)^{2}-17(a-b)-60$ ?
(1) $(a-b-12)(a-b+5)$
(2) $(a-b+12)(a-b-5)$
(3) $(a-b+20)(a-b-3)$
(4) $(a-b-20)(a-b+3)$
36. $(3 x+7)$ is an even number. What will be the square of ' $x$ ' from the following options?
(1) Odd number
(2) Even number
(3) Prime number
(4) Twin prime number

## SPACE FOR ROUGH WORK



| $300^{\circ}$ | $(2)$ | $100^{\circ}$ | $(1)$ |
| :--- | :--- | :--- | :--- |
| $260^{\circ}$ | $(4)$ | $220^{\circ}$ | $(3)$ |

- ( $\left.x^{3}-27\right)\left(x^{2}+2 x+2\right)$

5
6
(1)

2
(4)

3
33 33

$$
\begin{array}{lll}
\frac{r}{3} \times 4 \pi r^{2} & \text { (2) } & \frac{1}{3} \times 2 \pi r^{3} \\
\frac{4 \pi}{3} \times r^{2} & \text { (4) } & \frac{4}{3} \times r^{3}
\end{array}
$$


12,00,000 روحچچ
8,00,000 رو
-9,00,000

10,00,000 رو
-

$$
\begin{array}{lll}
(a-b+12)(a-b-5) & (2) & (a-b-12)(a-b+5) \\
(a-b-20)(a-b+3) & (4) & (a-b+20)(a-b-3)
\end{array}
$$


(1)
37. Abdul covered $\frac{2}{5}$ th distance between the towns A and B by car and $\frac{1}{2}$ the distance by bus. Still town B is 15 km away. What may be the distance between the town A and B ?
(1) 105 km
(2) 450 km
(3) 75 km
(4) 150 km
38. The capacity of a bucket is 10 l . If it is to be filled to its full capacity, how many bottle of $1.25 l$ will have to be emptied in it?
(1) 8 bottles
(2) 80 bottles
(3) 10 bottles
(4) 100 bottles
39. If a supplementary angle of an angle's complementary angle is $108^{\circ}$, find the measure of the angle.
(1) $72^{\circ}$
(2) $18^{\circ}$
(3) $98^{\circ}$
(4) $198^{\circ}$
40. In the adjoining figure, the diagonal of a square is 12 cm . Find the length of every side.

(1) $\frac{6}{\sqrt{2}} \mathrm{~cm}$
(2) 6 cm
(3) $12 \sqrt{2} \mathrm{~cm}$
(4) $6 \sqrt{2} \mathrm{~cm}$
41. $(0.3)^{2}+(0.1)^{2}-(0.2)^{2}=$ ? (Select two correct options)
(1) 0.6
(2) $(0.36)^{1 / 2}$
(3) $\sqrt{0.0036}$
(4) 0.06

## SPACE FOR ROUGH WORK



450
105 كوبمئم
150
75 75



$18^{\circ}$
$198^{\circ}$
(2)
$72^{\circ}$
(4)
$98^{\circ}$
(3)


م 6
(2)

$$
\begin{equation*}
\rho \frac{6}{\sqrt{2}} \tag{1}
\end{equation*}
$$

(4)

$$
\begin{equation*}
6 \sqrt{2} \tag{4}
\end{equation*}
$$

م $12 \sqrt{2}$

$$
(0.3)^{2}+(0.1)^{2}-(0.2)^{2}=\text { ? } ?
$$

$$
\begin{array}{r}
(0.36)^{1 / 2}  \tag{2}\\
0.06
\end{array}
$$

(4)

$$
\begin{aligned}
& \begin{array}{r}
0.6 \\
\sqrt{0.0036}
\end{array}
\end{aligned}
$$

42. Four vertices of a square lie on the circle as shown in the figure. The center of the circle is ' $O$ ' and radius is 7 cm . Find the area of the shaded portion.

(1) 54 sq. cm
(2) $55 \mathrm{sq} . \mathrm{cm}$
(3) 56 sq. cm
(4) $57 \mathrm{sq} . \mathrm{cm}$
43. In the adjoining figure, $l, m, n$ are parallel lines. $m \angle \mathrm{DAO}=60^{\circ}$, $m \angle \mathrm{OCE}=35^{\circ}$, then $m \angle \mathrm{AOC}=$ ?

(1) $25^{\circ}$
(2) $95^{\circ}$
(3) $85^{\circ}$
(4) $105^{\circ}$
44. Which of the options given below are incorrect statements? (Select two correct alternatives)
a. A ray has a midpoint.
b. A line has a midpoint.
c. Chord of a circle has a midpoint.
d. Perpendicular bisector of a line segment passes through its midpoint.
(1) a
(2) b
(3) c
(4) d


55 رلٌّم
54 رُّمّ
57 رلّعّم
56 رلعّم

$95^{\circ}$
(2)
$25^{\circ}$
$85^{\circ}$
$105^{\circ}$
(4)

44

## 

(d) - وارُ
b
d (4)

45. Which of the following terms, when added to the binomial $1+64 a^{2} b^{2}$, will make it a perfect square? (Select two correct alternatives)
(1) $16 a b$
(2) $8 a b$
(3) $-8 a b$
(4) $-16 a b$
46. By which of tests, $\Delta \mathrm{ABC}$ and $\Delta \mathrm{DCB}$ from the given figure will be congruent?

(1) SSS test
(2) SAA test
(3) ASA test
(4) SAS test
47. Find the ratio of $x$ and $y$, if a number is $20 \%$ of ' $x$ ' and another is $25 \%$ of ' $y$ '.
(1) $5: 4$
(2) $4: 5$
(3) $2: 3$
(4) $3: 2$
48. The weight of 20 students from a class is given in the frequency table. Find the mean of their weights. (Select two correct alternatives)

| Weights of the students (in kg) | Frequency $(f)$ |
| :---: | :---: |
| 20 | 11 |
| 21 | 8 |
| 22 | 1 |

(1) 20 kg 50 gm
(2) 20.5 kg
(3) 20.05 kg
(4) 20 kg 500 gm

## SPACE FOR ROUGH WORK


$8 a b$
$-16 a b$


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4:5
5:4
3:2
(4)
$2: 3$
(3)





## 

49. $\square \mathrm{ABCD}$ is a cyclic quadrilateral. Point E lies on the ray BC as $\mathrm{B}-\mathrm{C}-\mathrm{E}$. If $m \angle \mathrm{DCE}=95^{\circ}$, then $m \angle \mathrm{DAB}=$ ?

(1) $85^{\circ}$
(2) $95^{\circ}$
(3) $190^{\circ}$
(4) $170^{\circ}$
50. From a rectangular thermocol sheet with dimension $20 \mathrm{~cm} \times 10 \mathrm{~cm}$, a rectangular piece of $2 \mathrm{~cm} \times 5 \mathrm{~cm}$ dimension is cut. Which of the following sentences will be correct for the thermocol sheet?

(1) Perimeter will increase
(2) Perimeter will decrease
(3) Perimeter will remain same
(4) Perimeter will get doubled
51. Find the incorrect statement from the following:
(a) Every prime number is a natural number.
(b) Every rational number is a real number.
(c) Sum of any two prime numbers is an even number
(d) HCF of twin prime numbers is 1.
(1) a
(2) b
(3) c
(4) d

## SPACE FOR ROUGH WORK



$$
m \angle \mathrm{DAB}=1 \text { ? }
$$





(4)

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. 51



b
(2)
a
d
(4)
c
(1)
(3)

52. In the figure, line $l$ and $m$ intersect in point O . Find the value of ' $y$ '.

(1) $164^{\circ}$
(2) $56^{\circ}$
(3) $34^{\circ}$
(4) $146^{\circ}$
53. Read the following statements and select the correct alternative. (Two correct options)
(A) The numbers divisible by 3 and 4 are divisible by 8 .
(B) All numbers that are divisible by 2 and 9 are divisible by 18 .
(C) The numbers divisible by 6 and 10 are divisible by 2 .
(1) Statement ' $A$ ' incorrect
(2) Statements ' B ' and ' C ' are correct
(3) Statements ' A ' and ' B ' are correct
(4) Statement ' $C$ ' incorrect
54. Which of the following conditions should be given to make the total surface area of a sphere and cylinder to be equal?
(1) Diameter of a sphere should be equal to the radius of a cylinder.
(2) Radius and height of a cylinder is equal to the radius of a sphere.
(3) Radius of a cylinder should be double the radius of sphere.
(4) Height of a cylinder should be equal to the diameter of the sphere.

## SPACE FOR ROUGH WORK



(2)
(4)
$146^{\circ}$ $34^{\circ}$


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(4) بيان ’الف؛ اور ’بَ 'ناسب






55. A fruit seller purchased 48 dozen bananas at the rate of Rs. 48 per dozen. 1 dozen bananas were spoiled. He sold the remaining bananas at Rs. 72 per dozen. How much profit or loss did he incurr in this transaction?
(1) Rs. 1080 loss
(2) Rs. 1080 profit
(3) Rs. 72 loss
(4) Rs. 48 profit
56. In a cuboid shape tank, water is being poured from the tap at the rate of $60 \mathrm{l} / \mathrm{min}$. The capacity of the tank is 108 cu.m. How much time will be required to fill the tank to half of its capacity?
(1) 10 hrs .
(2) 3 hrs .
(3) 30 hrs .
(4) 15 hrs .
57. What will be the compound interest on Rs. 30,000 at the rate of $12 \%$ p.a. in $1 \frac{1}{2}$ years?
(1) Rs. 5400
(2) Rs. 6516
(3) Rs. 5696
(4) Rs. 5616
58. Using the digit only once, from one digit prime number form the greatest and smallest 4 digit number. Which of the following options will not divide the difference between these numbers completely?
(1) 3
(2) 5
(3) 9
(4) 7
59. Which of the following options is not a pythagorean triplet?
(1) $(3,4,5)$
(2) $(7,24,25)$
(3) $(8,15,17)$
(4) $(5,13,14)$

## SPACE FOR ROUGH WORK

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\begin{align*}
& 1080  \tag{2}\\
& 1080 \text { رو بُع تْصان }  \tag{1}\\
& 72 \tag{4}
\end{align*}
$$

$$
\begin{align*}
& \text { 会 } 3  \tag{2}\\
& \text { 等 } 10  \tag{1}\\
& \text { 旤 } 15  \tag{3}\\
& \text { 盛 } 30  \tag{4}\\
& \text { 12\% فُ (1) } \\
& 6516  \tag{1}\\
& 5400  \tag{2}\\
& \text { 4) } 5696  \tag{4}\\
& 5616 \text { روسٌ } \tag{3}
\end{align*}
$$

$$
\begin{align*}
& -3  \tag{2}\\
& \sim 9  \tag{4}\\
& <7  \tag{3}\\
& \text {. } 59 . \\
& (7,24,25)  \tag{2}\\
& (3,4,5)  \tag{1}\\
& (5,13,14)  \tag{4}\\
& (8,15,17) \tag{3}
\end{align*}
$$


60. What is the product of two integers between which $\frac{-119}{13}$ lie?
(1) 65
(2) 90
(3) -72
(4) +72
61. $\frac{(169)^{2}-1}{(13)^{2}-1}=$ How much?
(1) 171
(2) 168
(3) 169
(4) 170
62. I had to give Rs. 7 change to Rickshaw uncle. I had enough coins of Rs. 1, Rs. 2, Rs. 5. Then in how many ways can I pay him?
(1) 6 ways
(2) 3 ways
(3) 5 ways
(4) 4 ways
63. The average age of Ria and her 4 friends is 24 years. Their ages are $(3 m-2)$, $(2 m+7),(4 m-7),(3 m),(3 m+2)$ respectively. Find the value of ' $m$ '
(1) 7
(2) 9
(3) 8
(4) 5
64. As the rate of ticket of a play increased by $25 \%$, the sale reduced by $15 \%$. What is the rise or fall in the total income?
(1) $6.25 \%$ rise
(2) $6.25 \%$ fall
(3) $12.5 \%$ rise
(4) $12.5 \%$ fall

## SPACE FOR ROUGH WORK

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\begin{align*}
& \text { 60 } \\
& 90 \quad \text { (2) }  \tag{1}\\
& 65 \\
& +72 \\
& \text { (4) }  \tag{3}\\
& -72 \\
& \frac{(169)^{2}-1}{(13)^{2}-1}=6: 61 \\
& 168 \\
& \text { (2) } \\
& 171 \\
& \text { (1) } \\
& 170 \\
& \text { (4) }  \tag{3}\\
& 169
\end{align*}
$$

62

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\begin{equation*}
9 \tag{1}
\end{equation*}
$$

(2)

7
5
(4)

8



> رنكامَعـلِذانبُّك
65. Which of the following are the factors of $\left(a^{3}-8 b^{3}\right)$ ?
(1) $(a-2 b)\left(a^{2}-2 a b+4 b^{2}\right)$
(2) $(a-2 b)\left(a^{2}-2 a b-4 b^{2}\right)$
(3) $(a-2 b)\left(a^{2}+2 a b+4 b^{2}\right)$
(4) $(a-2 b)\left(a^{2}+2 a b-4 b^{2}\right)$
66. The length, breadth and height of a cuboid is ' $l$ ' cm, ' $b$ ' $\mathrm{cm}, ~ ' ~ h ' ~ \mathrm{~cm}$. If $l b=60 \mathrm{sq} . \mathrm{cm}, b h=24 \mathrm{sq} . \mathrm{cm}, h l=40 \mathrm{sq} . \mathrm{cm}$, then find the volume of cuboid.
(1) $248 \mathrm{cu} . \mathrm{cm}$
(2) $240 \mathrm{cu} . \mathrm{cm}$
(3) $600 \mathrm{cu} . \mathrm{cm}$
(4) $420 \mathrm{cu} . \mathrm{cm}$
67. Solve the equation and find the value of $x$, $\frac{x-5}{5}+\frac{x+2}{2}=0$
(1) 0
(2) 0.7
(3) $\frac{10}{7}$
(4) $\frac{13}{2}$
68. A semicircle is drawn over a diameter. The circumference of the semicircle is 72 units. $l(\mathrm{BC})=l(\mathrm{AO})=l(\mathrm{OC})$. Find the permimeter of $\Delta \mathrm{ABC}$.

(1) $42+14 \sqrt{3}$ units
(2) $56 \sqrt{3}$ units
(3) 56 units
(4) $42 \sqrt{3}+14$ units
69. Which of the following options is the co-efficient form of the polynomial $\left(x^{5}-4 x\right) ?$
(1) $(1,-4)$
(2) $(1,0,0,0,-4,0)$
(3) $(1,0,0,0,-4)$
(4) $(1,0,0,0,4)$

## SPACE FOR ROUGH WORK

65. 

$$
\begin{equation*}
(a-2 b)\left(a^{2}-2 a b-4 b^{2}\right) \tag{2}
\end{equation*}
$$

$$
\begin{equation*}
(a-2 b)\left(a^{2}+2 a b-4 b^{2}\right) \tag{4}
\end{equation*}
$$

$$
\begin{align*}
& 240 \text { كعبّم }  \tag{2}\\
& 248 \text { كحبّم }  \tag{1}\\
& 600 \text { كعبّم } \tag{4}
\end{align*}
$$

0.7
(2)
(4)

$$
\begin{equation*}
\frac{13}{2} \tag{4}
\end{equation*}
$$

$$
\begin{align*}
& \frac{x-5}{5}+\frac{x+2}{2}=0 \tag{1}
\end{align*}
$$



ك61 $56 \sqrt{3}$
)6642 42 + 14


$$
\begin{equation*}
\sqrt{6} 6142+14 \sqrt{3} \tag{1}
\end{equation*}
$$ 56


$(1,0,0,0,-4,0)$

## 

70. Sureshrao sold an article for Rs. 1962 and earned a profit of $9 \%$. What was the cost price of that article?
(1) Rs. 1900
(2) Rs. 1850
(3) Rs. 1950
(4) Rs. 1800
71. $m \propto \frac{1}{n}$ If $m=30$ then $n=5$. Write the equation of variation.
(1) $m=6 n$
(2) $m n=150$
(3) $n=150 m$
(4) $m n=6$
72. In $\triangle \mathrm{PQR}$, angle bisectors of $\angle \mathrm{Q}$ and $\angle \mathrm{R}$ intersect at point $\mathrm{O} . m \angle \mathrm{O}=130^{\circ}$, $m \angle \mathrm{P}=$ ?

(1) $50^{\circ}$
(2) $100^{\circ}$
(3) $80^{\circ}$
(4) $130^{\circ}$
73. A farmer purchased a pump at Rs. 6600 after getting a discount of $12 \%$ on the printed price. What might be the printed price of the pump?
(1) Rs. 7500
(2) Rs. 6500
(3) Rs. 5700
(4) Rs. 8500

## SPACE FOR ROUGH WORK



$$
\begin{align*}
& 1850  \tag{2}\\
& \text { رو } 1800  \tag{4}\\
& \text { روگ }
\end{align*}
$$

冬， 1900

$$
\begin{equation*}
1950 \text { روپچ } \tag{1}
\end{equation*}
$$

 .71

$$
\begin{array}{rlr}
m n=150 & \text { (2) } & m=6 n \\
m n=1 & \text { (4) } & n=150 m
\end{array}
$$

$100^{\circ}$
(2)
$50^{\circ}$
(1)
$130^{\circ}$
(4)
$80^{\circ}$


$$
\begin{align*}
& \text { \% رو } 6500  \tag{2}\\
& \text { 多 } 8500  \tag{4}\\
& \text { \% } 7500  \tag{1}\\
& \text { ת } 5700 \tag{3}
\end{align*}
$$

## 

Instructions for the Q. 74 and $\mathbf{Q} .75$. The sale and purchase of a merchant for the year 2017 for 3 months is shown through a bar graph. Observe it and answer the questions.

74. What type of bar graph is it?
(1) Divided bar graph
(2) Joint bar graph
(3) Percentage bar graph
(4) Simple bar graph
75. Find the ratio of total purchase to total sale for the three months.
(1) $7: 3$
(2) $10: 13$
(3) $13: 10$
(4) $7: 5$

## SPACE FOR ROUGH WORK







$10: 13$
7 : 5

$7: 3$
$13: 10$
(1)
(3)


