

LOGICAL BRAIN CONTEST for Class - IX

Time: 60 Minutes

Max. Marks 50

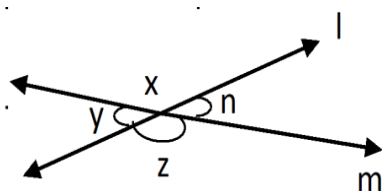
1. The area of the base of a right circular cone is 78.5cm^2 . If its height is 12cm. Find its volume

- A) 341cm^2 B) 314cm^3 C) 301cm^3 D) 304cm^3

2. In the figure, lines l and m intersect at O. If $n=63^\circ$ then the values of x, y and z

- A) $117^\circ, 63^\circ, 117^\circ$ B) $118^\circ, 64^\circ, 118^\circ$

- C) $119^\circ, 65^\circ, 119^\circ$ D) $120^\circ, 62^\circ, 120^\circ$



3. An angle is 14° more than its complementary angle, then the angle is _____

- A) 38° B) 52° C) 50° D) None of these

4. Mean of 20 observations is 15.5. Later it was found that the observation 24 was misread as 42.

The corrected mean is _____

- A) 14.2 B) 14.8 C) 14.0 D) 14.6

5. In a morning walk, I took 20 rounds of a park. During this period I came across person A, person B, person C and person D, 11 times, 7 times, 10 times and 5 times respectively. I want to represent this data graphically, which of the following is the best representation?

- A) Bar graph B) Histogram with unequal widths
C) Histogram with equal widths D) Frequency polygon

6. The value of $(\sqrt{6} - 3)^2$

- A) 9 B) 27 C) $15+6\sqrt{6}$ D) $15-6\sqrt{6}$

7. $\sqrt[3]{27}$ is a _____

- A) Surd B) Rational C) Irrational D) None of these

8. $\sqrt{\pi}$ is _____

- A) Surd B) Rational C) Irrational D) None of these

9. $\frac{15}{36}$ in decimal form _____

- A) 0.416 B) 0.146 C) 0.641 D) 0.461

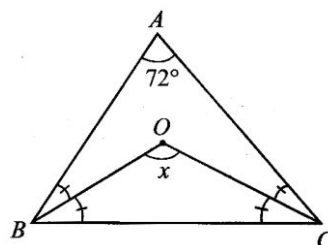
10. 2.016 in fraction _____

- A) $\frac{125}{252}$ B) $\frac{125}{253}$ C) $\frac{252}{125}$ D) $\frac{253}{125}$

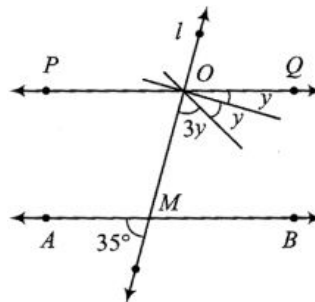
11. The value of x from the figure is _____

- A) 116° B) 126°

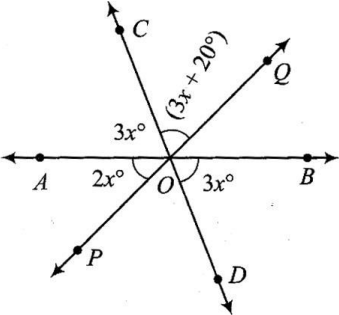
- C) 108° D) 132°



12. An exterior angle of a triangle is 100° and the interior opposite angles are in the ratio 1:4. The measure of the smallest angle of the triangle is _____
 A) 70° B) 80° C) 20° D) 30°
13. ABCD is a quadrilateral having AC as a diagonal then _____
 A) $CD+DC+AB+BC < 2AC$ B) $CD+DA+AB+BC = 2AC$
 C) $CD+AD+AB+BC > 2AC$ D) $CD+DA+AB < BC$
14. A small indoor green house is made entirely of glass panes including base held together with tape. How much of tape is needed for all the 12 edges.
 A) 440 cm B) 320 cm C) 324 cm D) 360 cm
15. How many 3 meter cubes can be cut from a cuboid measuring 18m X 12m X 9m?
 A) 72 B) 70 C) 76 D) 92
16. The diameter of a Sphere is 6 cm, it is melted and drawn into a wire of diameter 0.2 cm. What is the length of the wire?
 A) 18 m B) 26 m C) 36 m D) 30 m
17. If the length of a diagonal of a cube is $8\sqrt{3}$ cm. What is its surface area?
 A) 192 cm^2 B) 512 cm^2 C) 384 cm^2 D) 768 cm^2
18. What is the length of longest rod that can fit in a cubical vessel of side 20 cm?
 A) $10\sqrt{3}$ cm B) $20\sqrt{2}$ cm C) $20\sqrt{3}$ cm D) None of these
19. What is the measure of an angle which is equal to 5 times its supplement?
 A) 150° B) 120° C) 90° D) 135°
20. The value of y , if $AB \parallel PQ$ is



- A) 90° B) 29°
 C) 27° D) 7°
21. Which of the following is not a measure of central tendency?
 A) Frequency B) Mean C) Mode D) Median
22. The mid value and upper limit of a class interval are 41 and 47 respectively. The class size will be
 A) 6 B) 12 C) 10 D) 18
23. If mean of a grouped data is 23 and mode is equal to 14, then the median is equal to _____
 A) 19 B) 21 C) 22 D) 20
24. How many least number of distinct points determined a unique line?
 A) 1 B) 3 non collinear points C) Infinite D) 2
25. The mean of marks scored by 10 students was found to be 43. Later on it was discovered that a score of 30 was misread as 40. The new mean will be (correct)
 A) 41 B) 44 C) 43 D) 42

26. Ogives are the graphical representation of _____
- A) Cumulative frequency
B) Frequency
C) Raw data
D) Relative frequency
27. If a triangle and a parallelogram are on the same base and between the same parallels, and area of triangle is A, then area of parallelogram is
- A) $\frac{A}{2}$
B) 2A
C) 3A
D) 4A
28. A rhombus has length of diagonals as 8cm and 6cm. The ratio of area of rhombus and its side length is
- A) 6:12
B) 24:5
C) 5:6
D) 3:5
29. If $\frac{a}{b-a} = \frac{7}{8}$, then the value of $\frac{a}{b}$ is
- A) 7
B) $\frac{7}{15}$
C) $\frac{-15}{7}$
D) $\frac{15}{7}$
30. A parallelogram and a rectangle are constructed on same base and between the same parallels, they have
- A) Equal area
B) Unequal area
C) ar (parallelogram) > ar (rectangle)
D) ar (rectangle) > ar (parallelogram)
31. Find x
- A) 20°
B) 25°
C) 10°
D) 15°
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32. If $x-1$ is a factor of $4x^3+3x^2-4x+K$, then $K=$
- A) 3
B) -2
C) -3
D) 1
33. The volume of a cuboid is $3x^2-27$, its possible dimensions are
- A) $3, x^2, -27x$
B) $3, x-3, x+3$
C) $3, x^2, 27x$
D) 3, 3, 3
34. $a^2+b^2+c^2-ab-bc-ca$ will have
- A) Always negative value
B) Always positive value
C) Always non-negative value
D) Insufficient data given
35. If $\frac{x}{y} + \frac{y}{x} = -1$, then $x^3 - y^3 =$
- A) -8
B) 0
C) 1
D) -1
36. If $x^{140} + 2x^{151} + K$ is divisible by $(x+1)$ then the value of K is
- A) 1
B) -2
C) 2
D) -3
37. $\sqrt{?} - 5 = \sqrt{2209}$
- A) $\sqrt{2704}$
B) $(52)^2$
C) 52
D) $\sqrt{2214}$

38. Which is the largest among $\sqrt[6]{3}$, $\sqrt{2}$, $\sqrt[3]{4}$, $\sqrt[4]{5}$
- A) $\sqrt[6]{3}$ B) $\sqrt{2}$ C) $\sqrt[3]{4}$ D) $\sqrt[4]{5}$
39. A line makes equal angle with x and y-axis and pass through first quadrant has equation:
- A) $x=2y$ B) $x=y$ C) $x+y=0$ D) $x+\sqrt{3}y = 0$
40. If 2 points P and Q have same abscissae and different ordinates, then points P and Q will definitely lie on
- A) line parallel to x-axis B) x-axis C) y-axis D) line parallel to y-axis
41. The area of equilateral triangle whose 2 vertices are (3,0) and (4,0) will be (in sq. units)
- A) $\frac{\sqrt{3}}{4}$ B) $\frac{\sqrt{3}}{2}$ C) $\sqrt{3}$ D) $2\sqrt{3}$
42. The perpendicular distance of point (-11,-2) from y-axis
- A) 11 B) 2 C) $\sqrt{125}$ D) -11
43. Find that number which increases by 180 on multiplying by 13.
- A) 25 B) 15 C) 12 D) 5
44. How many rational numbers are there between 7 and 13?
- A) 5 B) 6 C) infinity D) 7
45. How many prime factors are there in $(4)^{11} \times (14)^5 \times (11)^2$
- A) 34 B) 36 C) 38 D) 43
46. At 3'O' clock the angle formed between the two hands of a clock is
- A) Right B) Acute C) Obtuse D) Left
47. Which of the following is incorrect:
- A) Every parallelogram is a quadrilateral B) Every rectangle is a parallelogram
C) Every rhombus is a parallelogram D) Every Trapezium is a parallelogram
48. The numbers 3, 5, 6 and 4 have frequencies of x , $x+2$, $x-8$ and $x+6$ respectively. If their mean is 4, then the value of x is.
- A) 5 B) 6 C) 7 D) 8
49. The mode of a set of observations is the value which
- A) occurs more frequently B) is central
C) is between maximum and minimum D) none of these
50. The average monthly income of a four family members is Rs. 610.25, after the marriage of one girl the average income of the family becomes Rs. 650.75, then the salary of the married girl is?
- A) Rs. 488.25 B) Rs. 488.75 C) Rs. 479.75 D) Rs. 489.25
