

VIII Maths

1. Which sum of the following is not a complete square?

- a) $144+256+441$
- b) $135+121$
- c) $1600+121$
- d) $324+576$

2. How many numbers between 100 and 500 are complete squares?

- a) 12
- b) 13
- c) 11
- d) 14

3. Which of the following expressions has value q

a) $\sqrt[q]{q^p}$

b) $\sqrt[p]{p^q}$

c) $\sqrt[p]{q^p}$

d) $\sqrt[q]{p^q}$

4. $\left(\frac{a^m + a^{-m}}{2}\right)^2 - \left(\frac{a^m - a^{-m}}{2}\right)^2$

- a) 1
- b) 2

c) $\frac{a^{2m} - a^{-2m}}{4}$

d) none of these

5. For representing the number $7\frac{1}{7}$ on the number line how many equal parts the unit distance between 7 and 8 should be divided?

- a) 5
- b) 1
- c) 7
- d) 6

6. Which of the following is an identity?

a) $3x = 2 + 2x$

b) $5x = -8$

c) $4\left(x + \frac{5}{4}\right) = 4x + 5$

d) $2x + 7 = x - 1$

7. $(a + b) = 5$, $ab = 6$ then $a^3 + b^3 = ?$

a) 125

b) 30

c) 35

d) 180

8. The factors of $x^2 - 5x - 6$ are

a) $(x-6)(x+1)$

b) $(x-3)(x-2)$

c) $(x+6)(x-1)$

d) $(x-3)(x+2)$

9. The difference between two numbers is 5 and the difference between their squares is 65. then the greater number is

a) 4

b) 9

c) 10

d) 11

10. The cost of 4 horses and 7 cows is 42000 Rs. And the cost of 7 horses and 4 cows is 57000 Rs. Find the cost of one horse and one cow.

a) Rs 5000

b) Rs 9000

c) Rs 4000

d) Rs 10000

11. $2x^2 = 36 \therefore x = ?$

a) 3

b) $3\sqrt{2}$

c) ± 6

d) $\pm 3\sqrt{2}$

12. Which of the following is a quadratic equation?

a) $4x + \frac{3}{2} = x$

b) $2x - \frac{1}{x} = 3$

c) $\frac{y^2}{9} = \frac{3}{y}$

d) $(x-1)(x+2)(x-3) = 24$

13. The compound interest on Rs.432 at $16\frac{2}{3}$ % p.a. for 2 years is

- a) Rs 588
- b) Rs 150
- c) Rs 156
- d) Rs 488

14. A sum of money doubles itself at compound interest in 15 years .it will become 8 times in

- a) 30 years
- b) 40 years
- c) 45 years
- d) 60 years

15. In a frequency distribution class mark of a class is 22 and class width is 8.find the lower and upper limit of the class

- a) 14, 30
- b) 18, 26
- c) 19, 27
- d) 20, 24

16. A number whose third part multiplied by its eighth part gives 864 is

- a) 142
- b) 144
- c) 140
- d) 143

17. $(2^3)^2 - 2^3^2$ is equal to

- a) 0
- b) -448
- c) 448
- d) 1

18. Two numbers are in the ratio 5:8.If 12 is added to each then they are in the ratio of 3:4.the value of the first number is

- a) 15
- b) 8
- c) 5
- d) 4

19. Find the area of a triangle whose sides are 50 m, 78 m, 182 m respectively.

- a) 168 m²
- b) 1680 m²
- c) 680 m²
- d) 900 m²

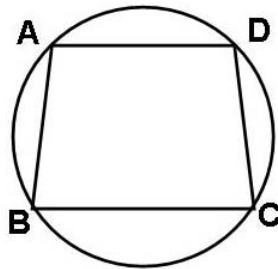
20. The radius of circular wheel is 1.75 m. How many revolutions will it make in traveling 11 Km?

- a) 1000
- b) 100
- c) 10000
- d) 1500

21. The side of a square is 2 m, semicircles are constructed on each side of the square. The area of the whole figure is

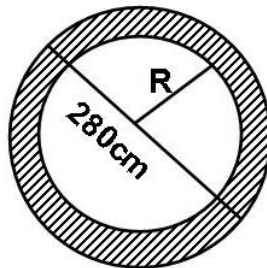
- a) $(4+2\pi)$ m²
- b) $(4+4\pi)$ m²
- c) 4π m²
- d) 8π m²

22. In the figure below, measures of opposite angles are in the ratio 5 : 4, then these angles are _____



- (a) 120, 60
- (b) 70, 100
- (c) 100, 80
- (d) 105, 75

23. Area of a circular track is 22,176 cm². If outer diameter is 280 cm, then the width of the path is _____



- (a) 14 cm
- (b) 28 cm
- (c) 22 cm
- (d) 17cm

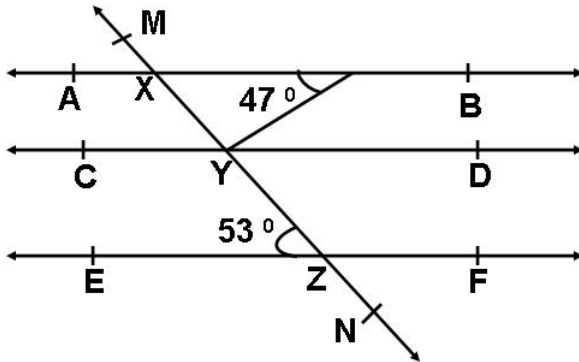
24. Point $(-2, 0)$ lies in _____

- (a) IIIrd quadrant
- (b) Ist quadrant
- (c) X axis
- (d) Y axis

25. In $\triangle ABC$, $AB = AC$, D and E are midpoints of AB and AC respectively. If $m \angle A = 50^\circ$ then $m \angle ADE = ?$

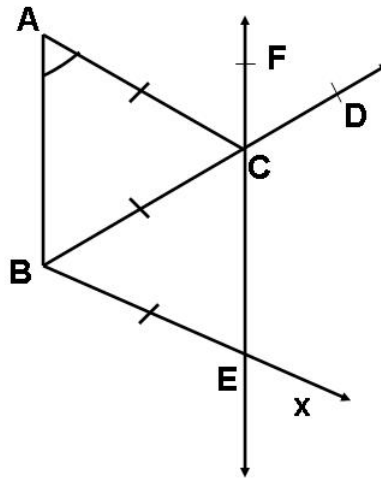
- (a) 50
- (b) 60
- (c) 65
- (d) 70

26. Lines $AB \parallel CD \parallel EF$, MN is a transversal, $m \angle XBY = 47^\circ$, $m \angle EZY = 53^\circ$, then $m \angle XYB = ?$



- (a) 47°
- (b) 53°
- (c) 102°
- (d) 78°

27. In the following figure, line $AB \parallel$ line FE , line $AC \parallel$ line BE , $AC = BC = BE$, if $m\angle A = 68^\circ$, then find $m\angle CBE$



- (a) 68°
- (b) 22°
- (c) 112°
- (d) 44°

28. If the radius of a right circular cylinder is halved, keeping the height same, what is the ratio of the reduced cylinder to that of the original cylinder?

- (a) 1 : 4
- (b) 4 : 1
- (c) 1 : 2
- (d) 2 : 1

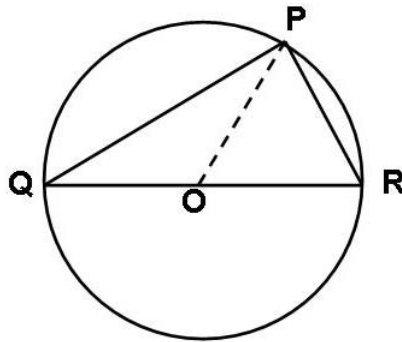
29. In a box of dimensions $12 \times 8 \times 8$ how many spheres of radius 2 can be placed?

- (a) 96
- (b) 18
- (c) 12
- (d) 8

30. $P(0, -2)$, $Q(-5, 0)$, $R(-2, 0)$ and $S(0, -5)$ are four points. Which among them represent pairs of parallel lines?

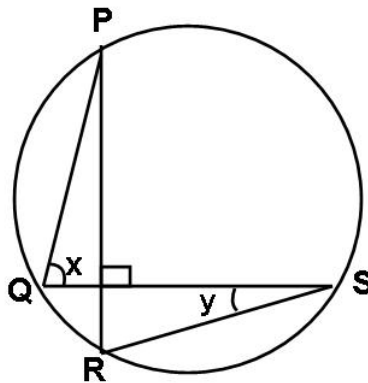
- (a) RS, QP
- (b) QR, PS
- (c) RP, QS
- (d) None of the above

31. In the following figure , $m \angle PQR + m \angle PRQ = ?$ (O is the center of the circle)



- (a) 70°
- (b) 80°
- (c) 90°
- (d) 100°

32. In the given figure , $x + y = ?$

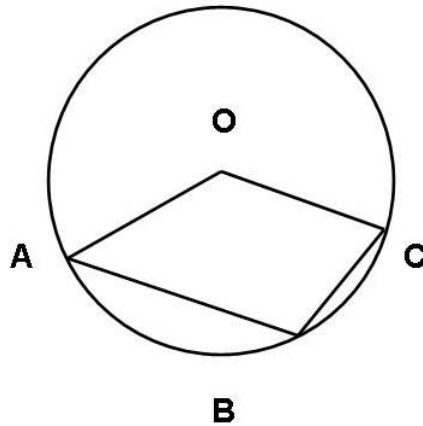


- (a) 45°
- (b) 90°
- (c) 180°
- (d) 100°

33. The square root of $(x^2 + 4x + 4)(x^2 + 6x + 9)$ is _____

- (a) $x^2 + 5x + 6$
- (b) $x^2 + 6x + 5$
- (c) $x^2 - 5x + 6$
- (d) $x^2 + 5x - 6$

34. Find $\angle ABC$ if $\angle AOC = 120^\circ$



- (a) 120°
- (b) 125°
- (c) 130°
- (d) 135°

35. If the radius and height of a cone are in the ratio 5 : 12 and its volume is 314 cm^3 , then its slant height is _____

- (a) 17 cm
- (b) 6 cm
- (c) 12 cm
- (d) 13 cm

36. The diameter of a right cone is 6 cm and its vertical height is 4 cm. Then what will be its curved surface area is _____

- (a) 47.1 cm^2
- (b) $24 \pi \text{ cm}^2$
- (c) 39.2 cm^2
- (d) None of these

37. If $3x^2 + 4x + k$ is divided by $(3x + 1)$, the quotient is $(x + 1)$ and the remainder is 3 then $k =$ _____

- (a) -3
- (b) 3
- (c) -4
- (d) 4

38. If the measure of the sector $O - AXB$ is 90° , and radius is 10 cm, what is the area of segment AXB ?

- (a) $25\pi - 25$
- (b) $50\pi - 25$
- (c) $25\pi - 50$
- (d) $50\pi - 50$

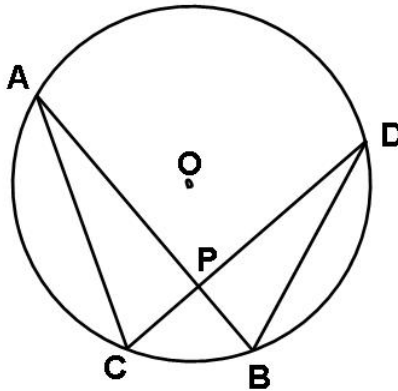
39. If in the complete cube of number, square of that number is added, the sum is 1872, then the number is _____

- (a) 16
- (b) 17
- (c) 11
- (d) 12

40. The sum of two adjacent angles is 2 right angles, the external arms are:

- (a) In a same straight line
- (b) In opposite direction
- (c) Perpendicular to each other
- (d) Oblique

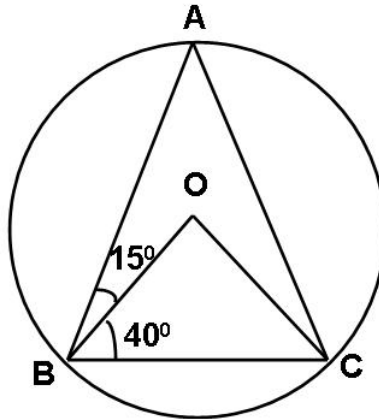
41. In a circle with center O , The unequal chord AB and CD intersect each other at P .



Then $\triangle APC$ and $\triangle DPB$ are _____

- (a) Have equal areas
- (b) Similar
- (c) Congruent
- (d) None of these

42. In the following figure $\angle OBC = 40^\circ$, $\angle ABO = 15^\circ$ then $\angle OCA = ?$



- (a) 15°
- (b) 25°
- (c) 35°
- (d) 45°

43. Sum of the ages of Raman and Rohit is 29 yrs. Twice the age of Raman exceeds the 7 years of age of Rohit. \therefore age of Raman = _____

- (a) $7\frac{1}{3}$
- (b) 10
- (c) 12
- (d) 17

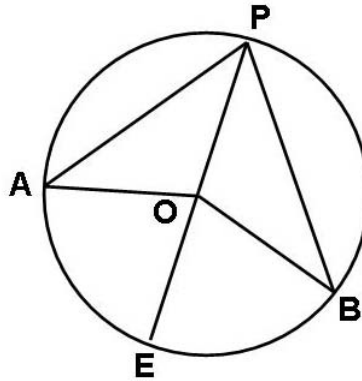
44. If $\frac{x+1}{x} = \frac{x+3}{x+1}$ then $x = ?$

- (a) 1 or 0
- (b) 1
- (c) 0
- (d) $\frac{1}{2}$

45. Quadrilateral whose both diagonals are angle bisectors is _____

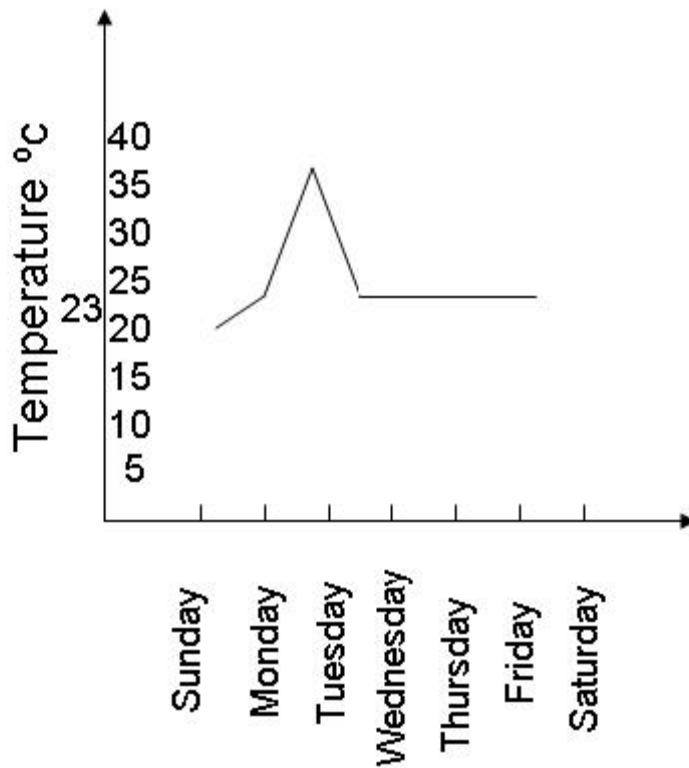
- (a) Rectangle
- (b) Kite
- (c) Rhombus
- (d) Isosceles Trapezium

46. In a circle with center O, $m \angle AOB = ?$



- (a) $\angle APE$
- (b) $2\angle APB$
- (c) $3\angle APB$
- (d) $4\angle APB$

DIRECTION: Below are given the temperatures on different days in a week. Study the diagram and answer the questions below it.



47. The average temperature from Wednesday through Saturday is

- a) 30°C
- b) 20 °c
- c) 45 °c
- d) 35 °c

48. On which day, the temperature was maximum and by how much?

- a) Wednesday, 35 °c
- b) Tuesday, 35 °c
- c) Monday, 40 °c
- d) None of these

49. What is the difference of temperature on Monday and Sunday?

- a) 2°C
- b) 3 °c
- c) 7 °c
- d) 5 °c

50. The average temperature of the seven days is approximately _____

- a) 21°C
- b) 20 °c
- c) 22 °c
- d) 23 °c