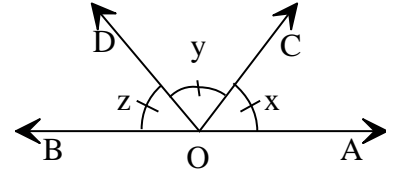


Multiple Choice Questions

1. The Value of $x^{a-b} \times x^{b-c} \times x^{c-a}$ is
 (a) 0 (b) 1 (c) 2 (d) x

2. In the given figure $\angle x = \angle y = \angle z$, then each angle is
 (a) equal to 60° (b) less than 60°
 (c) greater than 60° (d) none of these

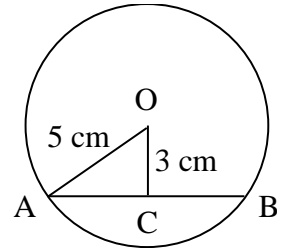


3. In ΔABC , $AB = AC$ and $\angle B = 70^\circ$, then $\angle A$ is equal to
 (a) 70° (b) 40° (c) 65° (d) none of these

4. Three angles of a quadrilateral are equal. If its fourth angle is 120° , the measure of the equal angles is
 (a) 90° (b) 80° (c) 60° (d) none of these

5. The value of the polynomial $3x^2 + 2x - 4$ at $x = 0$ is
 (a) 2 (b) 3 (c) -4 (d) 4

6. In the given figure, if $OA = 5$ cm and $OC = 3$ cm, then the length of AB is
 (a) 4 cm (b) 6 cm
 (c) 8 cm (d) 15 cm



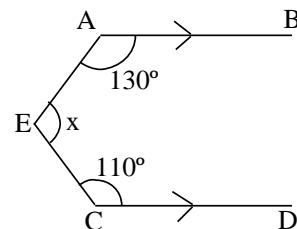
7. Each side of an isosceles right triangle is x cm. Its area is
 (a) x^2 cm (b) $2x$ cm² (c) $\frac{x^2}{2}$ cm² (d) $2x^2$ cm²

8. The curved surface area of a cylinder of height h is $6\pi rh$. The area of its base is
 (a) πr^2 (b) $3\pi r^2$ (c) $6\pi r^2$ (d) $9\pi r^2$

9. $0.\overline{75}$ is equivalent to
 (a) $\frac{3}{4}$ (b) $\frac{25}{33}$ (c) $\frac{8}{9}$ (d) $\frac{72}{99}$

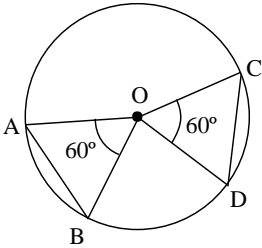
10. The remainder when $x^3 - px^2 + 6x - p$ is divided by $x - p$ is
 (a) p (b) $5p^2$ (c) $5p$ (d) $-5p$

11. In the adjoining figure, $AB \parallel CD$ the measure of $\angle x$ is
 (a) 120° (b) 55°
 (c) 65° (d) 70°



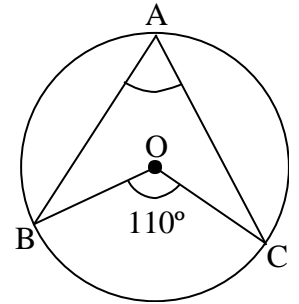
12. If the mean of data $x, x + 1, x + 3, x + 6$ is $\frac{15}{2}$, then the value of x is
 (a) 3 (b) 4 (c) 5 (d) 6

13. An irrational number is
 (a) a terminating decimal (b) a non-terminating decimal
 (c) a non-terminating repeating decimal (d) a non-terminating non-repeating decimal

14. The coefficient of x^0 in $3x^2 - 7x - 3$ is
 (a) 1 (b) 5 (c) 0 (d) -3
15. Two lines perpendicular to the same line are
 (a) parallel to each other (b) perpendicular to each other
 (c) equal to each other (d) none of these
16. If one angle of a triangle is 90° , then the other two angles may be
 (a) 30° and 60° (b) 45° and 45° (c) 40° and 50° (d) all of these
17. In a parallelogram ABCD, $\angle A = (3x + 15)^\circ$ and $\angle B = (5x - 35)^\circ$. The measure of $\angle D$ is
 (a) 125° (b) 90° (c) 180° (d) none of these
18. The mean of first 5 whole numbers is
 (a) 4 (b) 3 (c) 2 (d) 1
19. In the given figure, if $CD = 4$ cm and $\angle AOB = \angle COD = 60^\circ$, then the chord AB is equal to
 (a) 4 cm (b) 8 cm
 (c) 2 cm (d) data insufficient
- 
20. If the total surface area of a cube is $54x^2$, then its lateral surface area is
 (a) $36x^2$ (b) $30x^2$ (c) $27x^2$ (d) $45x^2$
21. Which of the following numbers has the terminating decimal expansion?
 (a) $\frac{1}{15}$ (b) $\frac{2}{35}$ (c) $\frac{23}{40}$ (d) $\frac{101}{150}$
22. 50% of angle is the supplement of 110° . The value of the angle is
 (a) 35° (b) 125° (c) 109° (d) 140°
23. The height of a cone is equal to its base diameter. The slant height of the cone is
 (a) $\sqrt{r^2 + h^2}$ (b) $r\sqrt{5}$ (c) $h\sqrt{5}$ (d) $rh\sqrt{5}$
24. In quadrilateral ABCD, the angles $\angle A$, $\angle B$, $\angle C$ and $\angle D$ are in the ratio 3 : 4 : 5 : 6. The difference between the greatest and the smallest angle is
 (a) 60° (b) 40° (c) 80° (d) 20°
25. An irrational number between 0.3101 and 0.333... is
 (a) 0.3201001000... (b) 0.1010010001... (c) $0.\overline{34}$ (d) $0.\overline{3}$
26. Which of the following is a polynomial?
 (a) $x^2 + \frac{1}{2x} - 5$ (b) $x^2 + \sqrt{x} + 3$ (c) $\frac{1}{\sqrt{x}} + 7$ (d) $x^2 + \frac{1}{2}x - \frac{5}{7}$
27. $\angle A$ and $\angle B$ are complementary angles. If $\angle A$ is equal to $\frac{1}{5}$ th of $\angle B$, then the value of $\angle B$ is
 (a) 80° (b) 150° (c) 75° (d) none of these
28. A, B and C are three angles of a triangle. If $A - B = 25^\circ$ and $B - C = 10^\circ$, then $\angle B$ is
 (a) 60° (b) 45° (c) 55° (d) 40°

29. Two adjacent angles of a parallelogram are $(2x + 30)^\circ$ and $(3x - 3)^\circ$. Then the value of x is
 (a) 30° (b) 60° (c) 0° (d) 36°

30. In the given figure, if O is centre of the circle, $\angle BOC = 110^\circ$, then the measure of $\angle BAC$ is equal to
 (a) 110° (b) 55°
 (c) 75° (d) 45°



31. The volume of a cube is 1000 cm^3 . Its surface area is
 (a) 100 cm^2 (b) 400 cm^2 (c) 600 cm^2 (d) none of these

32. The range of the following data is
 25.7, 16.3, 2.8, 21.7, 24.3, 22.7, 24.9
 (a) 22 (b) 22.9 (c) 21.7 (d) 20.5

33. On simplifying $\frac{6}{3\sqrt{2}-2\sqrt{3}}$, we get
 (a) $3\sqrt{3} + 2\sqrt{2}$ (b) $3\sqrt{2} + 2\sqrt{3}$ (c) $3\sqrt{2}$ (d) $2\sqrt{3}$

34. On factorising $x^2 + \left(m + \frac{1}{m}\right)x + 1$, we get
 (a) $(x + m)(x - m)$ (b) $\left(m + \frac{1}{m}\right)(x - m)$
 (c) $(x + m)\left(m + \frac{1}{m}\right)$ (d) $(x - m)\left(x - \frac{1}{m}\right)$

35. Curved surface area of a right circular cylinder is 8.8 m^2 . If the radius of the base of the cylinder is 1.4 m, its height is equal to
 (a) 10 m (b) 100 m (c) 0.1 m (d) 1 m

36. $\angle A$, $\angle B$ and $\angle C$ of a $\triangle ABC$ are in the ratio 2 : 4 : 3 respectively. The longest side of $\triangle ABC$ is
 (a) AB (b) BC (c) CA (d) All are equal

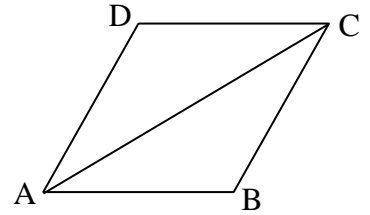
37. Which of the following is a rational number?
 (a) $\sqrt{5}$ (b) 0.1010010001... (c) 0.353535... (d) $\sqrt[3]{24}$

38. $\frac{x^2}{4} + \frac{4}{9}y^2 + \frac{2}{3}xy$ is equal to
 (a) $\left(\frac{x}{2} + \frac{2}{3}y\right)^2$ (b) $\left(\frac{x}{2} - \frac{2}{3}y\right)^2$ (c) $\left(\frac{2x}{3} + \frac{y}{3}\right)^2$ (d) $(2x + y)^2$

39. If all the three sides of a triangle are produced, then the sum of three exterior angle so formed is equal to
 (a) 180° (b) 360° (c) 540° (d) 270°

40. In $\triangle ABC$, $AB = 7.5$ cm, $BC = 6.7$ cm and $AC = 5.2$ cm, the greatest angle of the triangle is
 (a) $\angle A$ (b) $\angle B$ (c) $\angle C$ (d) none of these

41. In the adjoining figure, ABCD is a rhombus. If the diagonal AC is equal to one of its sides, then $\triangle ABC$ must be
 (a) a right angled triangle (b) an equilateral triangle
 (c) an isosceles triangle (d) none of these



42. In the given figure, PQRS is a cyclic quadrilateral, the value of x is
 (a) 90° (b) 60° (c) 120° (d) none of these

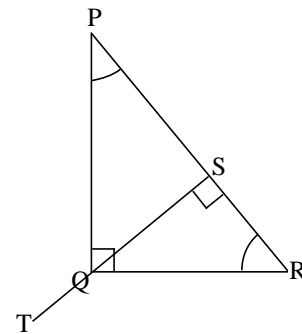
43. Area of an equilateral triangle of side 10 cm is
 (a) $100\sqrt{3}$ cm² (b) $50\sqrt{3}$ cm² (c) $25\sqrt{3}$ cm² (d) $10\sqrt{3}$ cm²

44. The mean of 15 numbers is 18 and the mean of 10 numbers is 13. The mean of all the 25 numbers is
 (a) 16 (b) 16.5 (c) 12 (d) none of these

45. If $x^{m+n} = 1$ and $y^{n+p} = 1$, then
 (a) $m = n$ (b) $m = p$ (c) $n = p$ (d) $x = y$

46. If $x - 1$ is a factor of $mx^2 - \sqrt{2}x + 1$, then the value of m is
 (a) $\sqrt{2}$ (b) $\sqrt{2} + 1$ (c) 1 (d) $\sqrt{2} - 1$

47. In the given figure, if $\angle QRP = 50^\circ$, then the measure of $\angle PQT$ is
 (a) 110° (b) 120°
 (c) 130° (d) 140°



48. The ratio between the curved surface area and the total surface area of a semi-sphere of radius r is
 (a) 1 : 2 (b) 2 : 3 (c) 3 : 2 (d) 2 : 1

49. If $\frac{1}{\sqrt{a}-\sqrt{b}} = \frac{1}{3}$ and $\frac{1}{\sqrt{a}+\sqrt{b}} = \frac{1}{2}$, then the difference of a and b
 (a) 2 (b) 4 (c) 6 (d) 8

50. If one diagonal of a quadrilateral is 12 cm and the two perpendiculars on this diagonal from the opposite vertices are 5 cm each, then the area of the parallelogram is
 (a) 20 cm² (b) 60 cm² (c) 30 cm² (d) 40 cm²