

21. The coordinates of midpoint of the line joining the points (3,5) and (5,a) is(4,5) Then the value of 'a' is
 A) 3
 B) 4
 C) 5
 D) 9
22. The distance between the origin and the point A (p,q) is
 A) $\sqrt{p^2 - q^2}$
 B) $p^2 + q^2$
 C) $\sqrt{p^2 + q^2}$
 D) $p^2 - q^2$
23. The area of triangle whose vertices are A(0,2) ,B(2,0) and C (0,4) is
 A) 1.5sq.units
 B) 2 sq.units
 C) 3 sq.units
 D) 5 sq.units
24. If $(x + 1)^2 = 49$ then the value of x is
 A) -8 and 6
 B) 8 and -6
 C) -7 and 7
 D) 8 and 6
25. The roots of the quadratic equation $x^2 - 4x = 0$ are
 A) 0 and -2
 B) 2 and -2
 C) 4 and -4
 D) 0 and 4
26. The discriminant of the quadratic equation $ax^2 - c = 0$ is
 A) $4a^2$
 B) $4ac$
 C) $-4ac$
 D) $-ac$
27. If the quadratic equation $kx^2 + 4x + 1 = 0$ has equal roots, then the value of 'k' is
 A) 1
 B) 2
 C) 3
 D) 4
28. In $\triangle ABC$, if $2 \sin A = \sqrt{3}$, then $\angle A =$
 A) 30°
 B) 45°
 C) 60°
 D) 90°
29. If $\triangle PQR$ is a right triangle with $\angle R = 90^\circ$, then the value of $\cos(P + Q)$ is
 A) 0
 B) $\frac{1}{2}$
 C) $\frac{1}{\sqrt{2}}$
 D) 1
30. The value of $(\tan^2 45^\circ - \cos^2 30^\circ)$ is
 A) 0
 B) $\frac{1}{4}$
 C) $\frac{1}{2}$
 D) 1
31. The value of $(\cos 31^\circ - \sin 59^\circ)$ is
 A) 0
 B) 1
 C) $\frac{1}{2}$
 D) 2
32. The height of a tree is 10m.If the angle of the elevation of Sun from the ground is 45° , then the length of its shadow is
 A) 5m
 B) $5\sqrt{3}$ m
 C) $10\sqrt{3}$ m
 D) 10m

33. The arithmetic mean of 12,15,x,19 and 20 is 16. Then the value of x is

- A) 14
B) 18
C) 15
D) 16

34. The lower limit of median class in the following frequency distribution table is

Class interval	0-5	5-10	10-15	15-20	20-25
frequency	4	8	14	10	2

- A) 5
B) 10
C) 20
D) 22.5

35. The arithmetic mean and mode of a data are 24 and 12 respectively. Then the median is

- A) 5
B) 10
C) 20
D) 22.5

36. Total surface area of a hemisphere with radius r is

- A) $\frac{1}{2}\pi r^2$
B) $2\pi r^2$
C) $3\pi r^2$
D) $4\pi r^2$

37. The volume of a solid cone for which area of the base is 45 cm^2 and height is 10cm is

- A) 450 cm^3
B) 150 cm^3
C) 300 cm^3
D) 225 cm^3

38. A metallic solid cone is melted to form a solid cylinder of equal radius. If the height of cylinder is 6cm, then the height of the cone is

- A) 6cm
B) 12cm
C) 16cm
D) 18cm

39. The perimeter of the right cylinder is 44cm and its height is 5cm then its lateral surface area is

- A) 110 cm^2
B) 200 cm^2
C) 220 cm^2
D) 440 cm^2

40. The volume of the frustum of a cone given in the figure is

- A) $\frac{1}{3}\pi h(r_1^2 + r_2^2 + r_1 r_2)$
B) $\frac{1}{3}\pi h(r_1^2 + r_2^2 - r_1 r_2)$
C) $\pi(r_1 + r_2)l$
D) $\frac{1}{3}\pi(r_1 + r_2)h$


