DEPUTY DIRECTOR OF PUBLIC INSTRUCTION OFFICE, TUMKUR DISTRICT

Multiple Choice Questions Based Practice paper-2, 2020-21

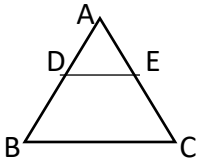
Class:10 Subject: Mathematics Total no.of questions：40

PRACTICE PAPER -02 Max.marks: 40

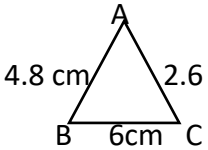
Four choices are given for each of the questions / incomplete statements. Choose the correct answer and shade the correct choice in the given OMR to you with blue / black ball point pen.

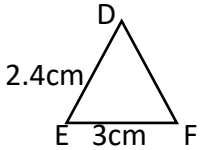
40 x 1 = 40

1. For which value of K do the equations x+2y=4 and 3x+Ky=12 represent coincident lines
   a. 2 b. 3 c.4 d.6
2. If the pair of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ has a unique solution then
   a. $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ b. $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ c. $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$. d. $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$.
3. The solutions of the equations x+y=5 and x-y=1 is
   a. -3 and 2 b. -3 and -2 c. 3 and -2 d. 3 and 2
4. If a pair of linear equations represented by lines has one solution then the what kind of lines are these
   a. Lines are parallel b. lines are coincident c. lines are perpendicular d. lines are intersecting
5. If the n th term of an AP is a_n=5n-3 then the third term is
   a.12 b. 18 c. 2 d. 0
6. If 2,x,14 are in AP then the value of x is
   a. 12 b. 8 c. 16 d. 28
7. The sum of first 'n' odd natural number is
   a. 2n b. n c. n^2 d. $\frac{n(n+1)}{2}$
8. In a progression if a_n= $2n^2 + 1$ then s_2
   a. 9 b. 12 c. 10 d. 11
9. In an AP If a=7, d=2 and a_n= 27 then 'n' is
   a. 11 b. 7 c. 5 d. 144
10. Sides of two similar triangles are in the ratio 4:9 then the areas of these triangles are in the ratio
    a. 2:3 b. 16:81 c. 4:9 d. 81:16
11. In the triangle ABC If DE || BC then the relation which is true
    a. $\frac{AB}{AD} = \frac{EC}{BC}$ b. $\frac{AE}{BD} = \frac{AD}{EC}$ c. $\frac{AD}{AC} = \frac{AE}{AB}$ d. $\frac{AD}{DB} = \frac{AE}{EC}$



12. In the given figure ΔABC ||| ΔDEF, ABC=DEF =60^0 then the length of DF is
    a. 4.8 cm b. 24 cm c. 4.6 cm d. 1.3 cm





13. In the figure $\Delta\ ABC$ is an Isosceles triangle right angled at C with AC = 4cm Find the length of AB.

a. $4\sqrt{2}$ b. $4\sqrt{3}$ c. $6\sqrt{2}$ d. $5\sqrt{2}$

14. A straight line that intersects at only one point on the circle is

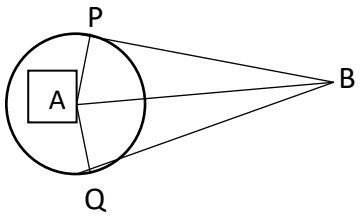
a. Tangent b. secant c. radius d. chord

15. If the angle between two tangents of a circle is 70^0 then angle between their radii is

a. 70^0 b. 35^0 c. 140^0 d. 110^0

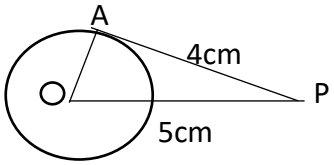
16. In the figure PB is the tangent to a circle with centre A If ABP =40^0 then PAB

$a.$ 70^0 b. 40^0 c. 50^0 d. 80^0



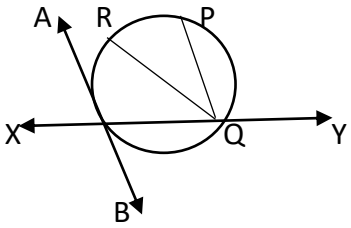
17. The length of tangent from a point at distance 5cm from the centre of the circle is 4cm then the radii of the circle is

a.2cm b. 3cm c. 4cm d. 5cm



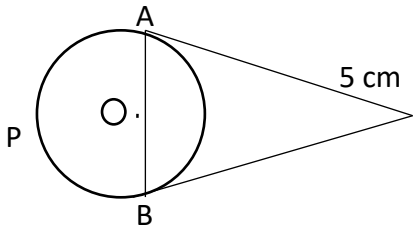
18. In a circle with centre 'O' the secant is

a. PQ b. XY c. QR d. AB



19. In the figure PA and PB are the tangents to a circle with centre 'O' If PA = 5cm and APB =60^0 then the length of the chord AB is

a. $5\sqrt{2}$ b. $5\sqrt{3}$ c. 5 d. 5.2



20. The distance of a point (x,y) from the origin

a. $x^2 + y^2$ b. $\sqrt{x^2 + y^2}$ c. $\sqrt{x + y}$ d. $\sqrt{x^2 - y^2}$

21. The value of x when the distance between the points (7, x) and (4, 0) is 5 units is

a. ± 7 b. 0 c. ± 4 d. $\pm\ 3$

22. The Coordinates of the point on the x-axis will be in the form

a. (0,y) b. (0,0) c. (x,0) d. (x,y)

23. If the mean value of 6, x, 8, 9, 12 is 8 then the value of x

a. 4 b. 5 c. 16 d. 10

24. Model class for the given distribution

CI	1-3	3-5	5-7	7-9	9-11
f	7	8	2	2	1

a. 1-3 b. 3-5 c. 5-7 d.7-9

25. Formula to find median is

a. $L + \left[\frac{\frac{n}{2}+cf}{f}\right] h$ b. $L + \left[\frac{\frac{n}{2}-f}{cf}\right] h$ c. $L + \left[\frac{\frac{n}{2}-cf}{f}\right] h$ d. $L - \left[\frac{\frac{n}{2}+cf}{f}\right] h$

26. If 5 sinθ = 44 then the cosecθ is

a. $\frac{5}{4}$ b. 4 c. $\frac{4}{5}$ d. 5

27. In the right angle Δ ABC B = 90^0 If tanC=$\sqrt{3}$ the value of the angle A is

a. 30^0 b. 45^0 c. 60^0 d. 90^0

28. The value of $\cos 48^0 - \sin 42^0$

a. 0 b. $\frac{1}{4}$ c. 1 d. $\frac{1}{2}$

29. (1 + cosθ) (1 – cosθ) =

a. $cos^2\theta$ b. $tan^2\theta$ c. $cot^2\theta$ d. $sin^2\theta$

30. A ramp for disabled people in a hospital must slop at not more than 30^0. If the height of the ramp has to be 1m then the length of the ramp is

a. 1m b. 3m c. $\sqrt{3}$ m d. 2m

31. A metallic cylinder of radius 6cm and height 8cm is melted and recast into the shape of a sphere then the radius of the sphere

a. 8cm b. 4cm c. 5cm d. 6cm

32. The slant height of the frustum of a cone is given by

a. $\sqrt{h^2 + (R+r)^2}$ b. $\sqrt{h^2 - (R+r)^2}$ c. $\sqrt{h^2 - (R-r)^2}$ d. $\sqrt{h^2 + (R-r)^2}$

33. A cone is cut through a plane parallel to its base and the small cone is removed the part that is left over is called

a. Cone b. frustum of a cone c. sphere d. cylinder

34. The number of spherical balls each of radius 1cm can be made from a solid sphere of lead of radius 6cm is

a. 576 b. 216 c. 512 d. 1024

35. The surface area of a cube whose volume is 64 cm^3 is

a. 72 sq.cm b. 96 sq.cm c. 108 sq.cm d. 64 sq.cm

36. The CSA of a right circular cylinder of radius 1cm and height 1cm

a. $2\pi cm^2$ b. $4\pi cm^2$ c. πcm^2 d. $3\pi cm^2$

37. If the roots of $ax^2 + bx + c = 0$ are equal then

a. $\frac{b}{2a} = \frac{2c}{b}$ b. $b^2 + 4ac = 0$ c. $\frac{b}{2a} = \frac{b}{2c}$ d. a = b

38. The roots of quadratic equation $3x^2 - 6x = 0$ are

a. (3, 6) b. (0, -2) c. (0, 3) d. (0, 2)

39. The product of two consecutive integers is 240, the quadratic representation of the above situation is

a. $x^2 + (x+1)^2 = 240$ b. $x(x+1) = 240$ c. $x(x+1)^2 = 240$ d. $x^2(x+1) = 240$

40. Nature of roots of the quadratic equation $2x^2 + 4x - 5 = 0$

a. Non-real roots b. real and distinct c. real and equal d. none of these