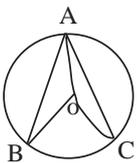
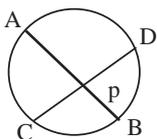


GEOMETRY

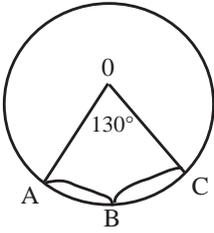
1. $\triangle ABC \sim \triangle PQR$, If $\angle A = 60^\circ$, $\angle B = 70^\circ$ then $\angle R =$ _____ (June 2009)
2. If P and Q are the mid points of AB and AC of $\triangle ABC$, then $\frac{BC}{PQ}$ _____ (June 2009)
3. Two circles of radii x and y touch each other externally, the distance between their centres is _____ (June 2009)
4. The number of common tangents for two externally touching circles is _____ (June 2009)
5. If $C = 90^\circ$ in $\triangle ABC$ and $a = 3$, $b = 4$ then $c =$ _____ (June 2009)
6. If a parallelogram is cyclic, then it is _____ (March 2008)
7. If $\triangle ABC \sim \triangle PQR$ then $\overline{AB} : \overline{AC} =$ _____
8. The distance between the centres of two circles is 'd'. If their radii are r_1 and r_2 then the length of transverse common tangent is _____
9. Number of common tangent that can be drawn to two circles touching externally are _____
10. Two circles touch externally at 'O' AB is their direct common tangent, then $\angle AOB =$ _____ (March 2008)
11. PT is a tangent and PAB is a secant of the circle meeting the circle at A and B. If $PA = 4\text{cm}$, $PB = 5\text{cm}$ then $PT =$ _____
12. A _____ to a circle is perpendicular to the radius through the point of contact.
13. $\triangle ABC$ is an obtuse triangle, obtuse angle at B. If $AD \perp CB$ then $AC^2 =$ _____
14. If $\triangle ABC \sim \triangle DEF$ then $\triangle DEF \sim \triangle ABC$. This is _____ property.
15. In $\triangle ABC$, $b^2 = a^2 + c^2$ then _____ is a right angle.
16. AD is the angle bisector of $\angle A$ in $\triangle ABC$. If $BD:DC = 6:7$ and $AC = 3.5$ then $AB =$ _____
17. The side and one diagonal of a rhombus are 5cm and 8cm. respectively. the length of the other diagonal is _____
18. If two circles of radii 3cm and 5cm touch internally, then the distance between their centres is _____ cm
19. The angle subtended by major arc at the centre is _____
20. Altitude of two similar triangles are in $1:\sqrt{2}$ ratio, then the ratio of their areas is _____
21. The perimeter of two similar triangles are in the ratio 1:3. The ratio of their corresponding sides is _____
22. Angle in a semi circle is _____
23. The angle between the tangent and the radius at the point of contact is _____
24. The length of the tangent to a circle with radius 'r' from a point, 'p' which is 'd' cm away from the centre is _____
25. The point of intersection of the perpendicular bisectors of any two sides of a triangle is its _____
26. The area of a rectangle is 24sq.cm. If its length is 6cm then its perimeter is _____
27. In triangle ABC: if a circle drawn on BC as diameter passes through A, the triangle ABC is _____
28. If two circles touch externally, then the number of direct common tangents are _____
29. P is a point outside a circle and PT is a tangent to the circle PAB a secant, cuts the circle at A and B then $PA.PB =$ _____
30. Angle in a semicircle at the centre is _____
31. Tangents drawn to a circle from an external point are _____
32. In a square, the diagonal is _____ times to its side.
33. In a $\triangle ABC$, the sides are 6,10,8 then it is a _____ triangle.
34. In a $\triangle ABC$, AD is the median drawn to BC then $AB^2 + AC^2 =$ _____
35. For two concentric circles., no. of tangents is _____
36. The number of circles that can be drawn passing through three points which are not collinear is _____
37. If two chords are subtending equal angles at the centre of a circle, they are _____
38. In $\triangle ABC$ 'B' is right angle triangle and $BD \perp AC$ then $BD^2 =$ _____
39. The point which is equidistance from the vertices of a triangle is _____
40. If a line divides any two sides of a triangle in the same ratio then the line is _____ to the third side.
41. $\triangle ABC$, $\angle B < 90^\circ$ and $AD \perp BC$ then $AC^2 = AB^2 + BC^2 -$ _____
42. If ABCD is a cyclic quadrilateral then $\angle A + \angle C =$ _____
43. Angles in the same segment of a circle are _____
44. The height of an equilateral triangle with side $2\sqrt{3}$ is _____
45. 'O' is the centre of a circle, If $\angle BOA = 140^\circ$ and $\angle COA = 100^\circ$ then $\angle BAC =$ _____



46. Basic proportionality theorem is known as _____ theorem.
47. In the below circle the chords AB and CD intersect at 'O' and $AO = 8$, $OB = 6$, $CO = 4$ then $OD =$ _____



48. 'O' is the centre of the circle.
If $\angle AOC = 130^\circ$ then $\angle B =$ _____



49. The point of concurrence of the medians of a triangle is _____

KEY

1. 50°
2. 2:1
3. $x+y$
4. 3
5. 5
6. Rectangle
7. PQ:PR
8. $\sqrt{d_2 - (r_1 + r_2)^2}$
9. 3
10. 90°
11. $2\sqrt{5}$
12. Tangent
13. $AB^2 + BC^2 + 2BC \cdot BD$
14. Symmetric
15. $\angle B$
16. 3
17. 6 cm
18. 2 cm
19. $>180^\circ$
20. 1:2
21. 1:3
22. right angle (90°)
23. 90°
24. $\sqrt{d^2 - r^2}$
25. Circum center
26. 20 cm
27. right angle triangle
28. 2
29. PT^2
30. 180°
31. equal
32. $\sqrt{2}$
33. right angle triangle
34. $2(AD^2 + BD^2)$ (or) $2(AD^2 + DC^2)$
35. Zero
36. One
37. Equal
38. AD.DC
39. Circum center
40. Parallel
41. $2BC \cdot BD$
42. 180°
43. Equal
44. 3cm
45. 60°
46. Thales theorem
47. 12
48. 115°
49. centroid

Important Questions

5 Marks

1. Construct a cyclic quadrilateral ABCD where $AC = 4$ Cm $\angle ABC = 57^\circ$, $AB = 1.5$ Cm and $AD = 2$ cm?
2. Construct a triangle ABC in which. $AB = 4.4$ cm $\angle c = 65^\circ$ and median through c = 2.7cm.?

3. Construct a triangle ABC in which $Bc = 7\text{cm}$, $\angle A = 70^\circ$ and foot of the perpendicular D on BC from A is 4.5cm away from B?

4 Marks

1. State and prove Basic proportionality theorem?
2. State and prove pythagorean theorem?
3. State and prove Alternate segment theorem?
4. State and prove vertical angle Bisector theorem?
5. State and prove converse of Alternate segment theorem?
6. State and prove converse of Basic proportionality theorem?

2 Marks

1. $\angle B$ of $\triangle ABC$ is an acute angle and $AD \perp BC$. Prove that $AC^2 = AB^2 + BC^2 - 2BC \cdot BD$?
2. ABCD is rhombus, prove that $AB^2 + BC^2 + CD^2 + DA^2 = AC^2 + BD^2$?
3. Prove that the line Joining the mid - points of two sides of a triangle is parallel to 3rd side?
4. Prove that the area of an equilateral triangle at side 'a' is $\frac{\sqrt{3}}{4}a^2$. ?
5. Write two properties when two polygons are said to be similar to each other?
6. In $\triangle ABC$, AD is drawn perpendicular to BC , then prove that $AB^2 - BD^2 = AC^2 - CD^2$?
7. If PAB is a secant to a circle intersecting the circle at A and B and PT is tangent segment then $PA \cdot PB = PT^2$?

1 Mark

1. If the radii 5 cms and 6cms of two circles touch externally Find their direct common tangents?
2. Define converse of the pythagorean theorem?
3. Define Appolonius theorem?
4. A ladder 25 cm. long reaches a window of a building 24 cm. above the ground. Determine the distance of the foot of ladder from the building?
5. State two properties, when two triangles are said to be similar?
6. State the converse of Alternate segment theorem?
7. There is a circle of radius 3cm. From a point 'P' which is at a distance of 5 cm. from the centre of a circle, a tangent is drawn to the circle. Find the length of the tangent?
8. Two circles radii 9cms touch internally .Find the distance between their centres?