



## MATHS

### Circles

All Questions

1. Definition of circle



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2. Theorem: A tangent to a circle is perpendicular to the radius through the point of contact.



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3. Position of point and Find the no of tangents



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4. Theorem: The length of two tangents drawn from an external point to a circle are equal.



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5. Type I: A point P is 13cm from the center of the circle. The length of the tangent drawn from P to the circle is 12 cm . Find the radius of the circle ?



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6. A circle is touching the side BC of  $\triangle ABC$  at P and touching AB and AC produced at Q and R respectively Prove that  $AQ = \frac{1}{2}$ (Perimeter of  $\triangle ABC$ )



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7. Type III: Two concentric circles of radii 5cm and 3cm . Find the length of the chord of the larger circle which touches the smaller circle.



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**8. Theorem:**A line drawn through the end point of a radius and perpendicular to it is a tangent to the circle.



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**9. Theorem:**If two tangents are drawn to a circle from an external point ; then (i) they subtend equal angles at the centre. (ii) they are equally inclined to the line segments ; joining the centre to that point.





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**10. Type IV:** A circle touches the sides of the quadrilateral  $ABCD$  at  $P$ ,  $Q$ ,  $R$ , and  $S$  respectively. Show that the angles subtended at the center by a pair of opposite sides are supplementary.



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**11. Type V:**  $O$  is the center of the circle of radius  $5\text{cm}$ .  $T$  is a point such that  $OT=13\text{cm}$  and  $OT$

intersects the circle at E . If AB is the tangent to the circle at E; find the length of AB.



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