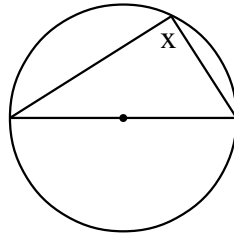


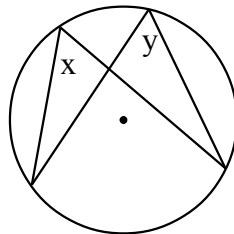
Circle Theorems

1) An angle in a semicircle is a right angle.



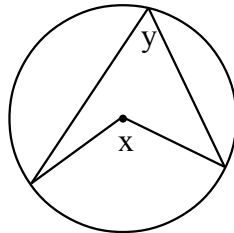
$$x = 90^\circ$$

2) Angles in the same segment are equal.

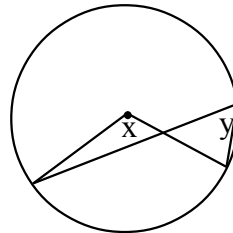


$$x = y$$

3) The angle at the centre is twice the angle at the circumference.



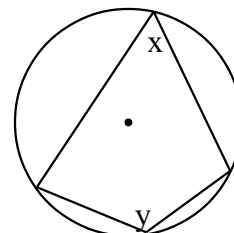
$$x = 2y$$



$$x = 2y$$

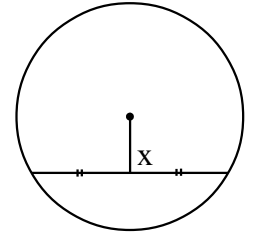
4) Opposite angles of a cyclic quadrilateral add up to 180° .

(A **cyclic** quadrilateral is one with all four vertices on the circumference of a circle.)



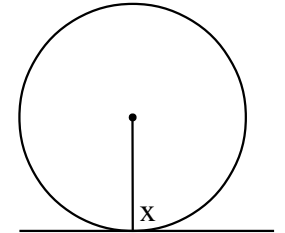
$$x + y = 180^\circ$$

5) The line from the centre of a circle to the midpoint of a chord is perpendicular to the chord.



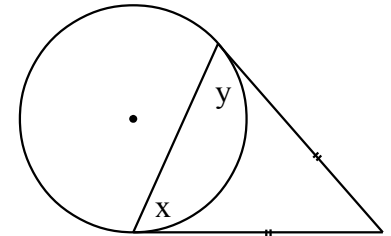
$$x = 90^\circ$$

6) The angle between a tangent and a radius is a right angle.



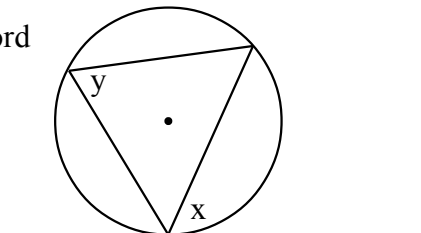
$$x = 90^\circ$$

7) The two tangents from a point to a circle are equal in length. Hence the angles between the tangents and the chord are equal.



$$x = y$$

8) The angle between a tangent and a chord is equal to the angle in the alternate segment of the circle.



$$x = y$$