

CHAPTER-9
CIRCLES

1 EXERCISE-10.5

A chord of a circle is equal to the radius of the circle. Find the angle subtended by the chord at a point on the minor arc and also at a point on the major arc.

2 SOLUTION

Given, $AB = \text{radius of the circle}$

$$\text{In } \triangle OAB \quad (1)$$

$OA = OB = AB = \text{radius of the circle}$

Thus, $\triangle OAB$ is an equilateral triangle

$$\angle AOC = 60^\circ \quad (2)$$

$$\angle ACB = \frac{1}{2} \angle AOB \quad (3)$$

$$\angle ACB = \frac{1}{2} \times 60^\circ \quad (4)$$

$$= 30^\circ \quad (5)$$

ACBD is cyclic quadrilateral

$$\angle ADB + \angle ACB = 180^\circ \quad (6)$$

$$\angle ADB = 180^\circ - 30^\circ \quad (7)$$

$$= 150^\circ \quad (8)$$

The chord at a point on the minor arc and major arc are 150° and 30°