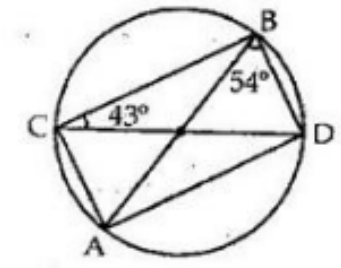
Exercise 11B

Question 6:



(i) Angles in the same segment of a circle are equal.
$\angle ABD$ and $\angle ACD$ are in the segment AD.

$\therefore \quad \angle ACD = \angle ABD$

$= 54^\circ$ [Given]

(ii) Angles in the same segment of a circle are equal.
$\angle BAD$ and $\angle BCD$ are in the segment BD.

$\therefore \quad \angle BAD = \angle BCD$

$= 43^\circ$ [Given]

(iii) Consider the ΔABD.
By Angle sum property we have

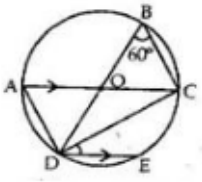
$\angle BAD + \angle ADB + \angle DBA = 180^\circ$

$\Rightarrow \quad 43^\circ + \angle ADB + 54^\circ = 180^\circ$

$\Rightarrow \quad \angle ADB = 180^\circ - 97^\circ = 83^\circ$

$\Rightarrow \quad \angle BDA = 83^\circ$

Question 7:



Angles in the same segment of a circle are equal.
$\angle CAD$ and $\angle CBD$ are in the segment CD.

$\therefore \quad \angle CAD = \angle CBD = 60^\circ$ [Given]

We know that an angle in a semi circle is a right angle.

$\therefore \quad \angle ADC = 90^\circ$ [angle in a semicircle]

$\therefore \quad \angle ACD = 180^\circ - (\angle ADC + \angle CAD)$

$= 180^\circ - (90^\circ + 60^\circ)$

$= 180^\circ - 150^\circ = 30^\circ$

$\therefore \quad \angle CDE = \angle ACD = 30^\circ$ [AC ∥ DE and CD is a transversal, thus alternate angles are equal]

********** END **********