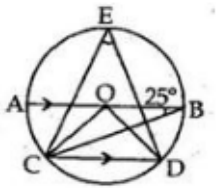
Exercise 11B

Question 8:



Join CO and DO, $\angle BCD = \angle ABC = 25°$ [alternate interior angles]

The angle subtended by an arc of a circle at the centre is double the angle subtended by the arc at any point on the circumference.

$\therefore \angle BOD = 2\angle BCD$

$= 50°$ $[\angle BCD = 25°]$

Similarly,

$\angle AOC = 2\angle ABC$

$= 50°$

AB is a straight line passing through the centre.

$\therefore \angle AOC + \angle COD + \angle BOD = 180°$

$\Rightarrow 50° + \angle COD + 50° = 180°$

$\Rightarrow \angle COD = 180° - 100° = 80°$

$\therefore \angle CED = \frac{1}{2}\angle COD$

$= \frac{80°}{2} = 40°$

$\therefore \angle CED = 40°$

Question 9:

(i) $\angle CED = 90°$

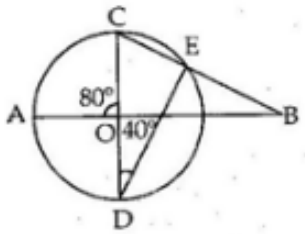
In ΔCED, we have

$\angle CED + \angle EDC + \angle DCE = 180°$

$\Rightarrow \quad 90° + 40° + \angle DCE = 180°$

$\therefore \quad \angle DCE = 180° - 130°$

$\angle DCE = 50° \quad ....(1)$



(ii) $\angle AOC$ and $\angle BOC$ are linear pair.

$\therefore \quad \angle BOC = (180° - 80°) = 100° \quad .....(2)$

$\therefore \angle ABC = 180° - (\angle BOC + \angle DCE)$

$= 180° - (100° + 50°)$ [from (1) and (2)]

$= 180° - 150° = 30°$

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