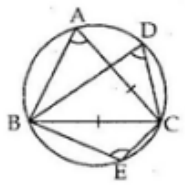
Exercise 11C

Question 8:

Δ ABC is an equilateral triangle.

$\therefore$ Each of its angle is equal to $60°$

$\Rightarrow \angle BAC = \angle ABC = \angle ACB = 60°$



(i) Angles in the same segment of a circle are equal.

$\therefore \angle BDC = \angle BAC$

$= 60° \quad [\because \angle BAC = 60°]$

$\Rightarrow \angle BDC = 60°$

(ii) The opposite angles of a cyclic quadrilateral are supplementary

ABCE is a cyclic quadrilateral and thus,

$\angle BAC + \angle BEC = 180°$

$\angle BEC = 180° - 60° [\because \angle BAC = 60°]$

$= 120°$

$\Rightarrow \quad \angle BEC = 120°$

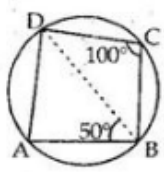
Question 9:

ABCD is a cyclic quadrilateral.

$\therefore \quad \angle A + \angle C = 180°$ [opp. angle of a cyclic quadrilateral are supplementary]

$\Rightarrow \quad \angle A + 100° = 180°$

$\Rightarrow \quad \angle A = 180° - 100° = 80°$



Now in ΔABD, we have

$\angle A + \angle ABD + \angle ADB = 180°$

$\Rightarrow \quad 80° + 50° + \angle ADB = 180°$

$\Rightarrow \quad \angle ADB = 180° - 130° = 50°$

$\therefore \quad \angle ADB = 50°$

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