Exercise 11C

Question 1:

$\angle BDC = \angle BAC = 40°$ [angles in the same segment]

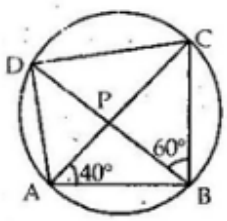
In ΔBCD, we have

$\angle BCD + \angle BDC + \angle DBC = 180°$

$\therefore \quad \angle BCD + 40° + 60° = 180°$

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

$\therefore \quad \angle BCD = 80°$



(ii) Also $\angle CAD = \angle CBD$ [angles in the same segment]

$\therefore \quad \angle CAD = 60°$ [$\because \angle CBD = 60°$]

Question 2:

In cyclic quadrilateral PQRS

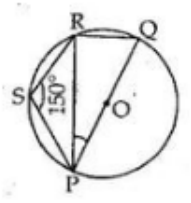
$\angle PSR + \angle PQR = 180°$

$\Rightarrow \quad 150° + \angle PQR = 180°$

$\Rightarrow \quad \angle PQR = 180° - 150° = 30°$ .....(i)

Also, $\angle PRQ = 90°$ .....(ii)

[angle ina semi circle]



Now in ΔPRQ we have

$\angle PQR + \angle PRQ + \angle RPQ = 180°$

$\Rightarrow \quad 30° + 90° + \angle RPQ = 180°$ [from (i)and(ii)]

$\Rightarrow \quad \angle RPQ = 180° - 120° = 60°$

$\therefore \quad \angle RPQ = 60°$

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