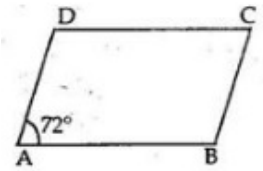
Exercise 9B

Question 1:




In a parallelogram, opposite angles are equal.

$\therefore \quad \angle A = \angle C = 72°$

The sum of all the four angles of a parallelogram is 360°

So, $\angle A + \angle B + \angle C + \angle D = 360°$

$\Rightarrow \quad 72° + \angle B + 72° + \angle D = 360° \quad [\because \angle A = \angle C]$

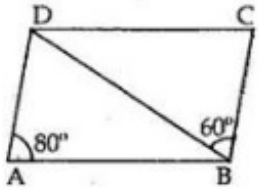
$\Rightarrow \quad 2\angle B + 144° = 360° \quad [\because \angle B = \angle D]$

$\Rightarrow \quad 2\angle B = 360° - 144° = 216°$

$\Rightarrow \quad \angle B = \frac{216}{2} = 108°$

$\therefore \quad \angle B = 108°, \angle C = 72° \text{ and } \angle D = 108°.$

Question 2:




ABCD is a parallelogram,
so opposite angles are equal.

$\therefore \quad \angle C = \angle A = 80°$

As $AD \parallel BC$ and BD is a transversal.

So, $\angle ADB = \angle DBC = 60°$

[Alternate angles]

In $\Delta ABD$

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

$\Rightarrow \quad 80° + 60° + \angle ABD = 180°$

$\Rightarrow \quad 140° + \angle ABD = 180°$

$\Rightarrow \quad \angle ABD = 180° - 140° = 40°$

$\therefore \quad \angle ABC = \angle ABD + \angle DBC$

$= 40° + 60° = 100°$

In a parallelogram, opposite angles are equal.

So, $\angle ADC = \angle ABC = \angle 100°$

$\therefore \quad \angle CDB = \angle ADC - \angle ADB$

$= 100° - 60° = 40°$

and $\angle ADB = 60°.$

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