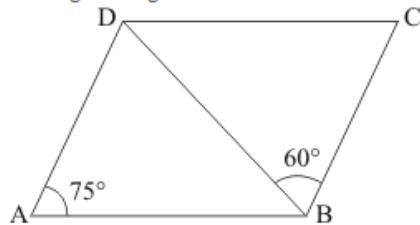




Quadrilaterals Ex 14.2 Q8

Answer :

The figure is given as follows:



It is given that $ABCD$ is a parallelogram.

Thus $AD \parallel BC$

And $\angle DBC$ are $\angle ADB$ alternate interior opposite angles.

Therefore,

$$\angle ADB = \angle DBC$$

$$\angle ADB = 60^\circ \dots\dots (i)$$

We know that the opposite angles of a parallelogram are equal. Therefore,

$$\angle A = \angle C$$

Also, we have $\angle A = 75^\circ$

Therefore,

$$\angle C = 75^\circ \dots\dots (ii)$$

In $\triangle BCD$

By angle sum property of a triangle.

$$\angle CDB + \angle ADB + \angle C = 180^\circ$$

From (i) and (ii), we get:

$$\angle CDB + 60^\circ + 75^\circ = 180^\circ$$

$$\angle CDB + 135^\circ = 180^\circ$$

$$\angle CDB = 180^\circ - 135^\circ$$

$$\angle CDB = 45^\circ$$

Hence, the required value for $\angle ADB$ is 60°

And $\angle CDB$ is 45° .

***** END *****