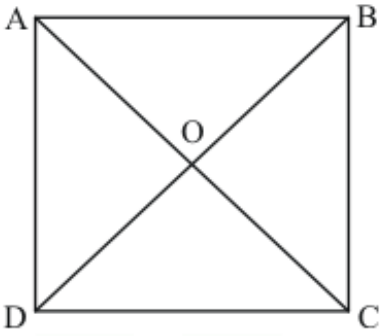
Quadrilaterals Ex 14.3 Q3

Answer :

The figure can be drawn as follows:



In ΔAOB and ΔAOD,

$AB = AD$ (Sides of a square are equal)

$OB = OD$ (Diagonals of a parallelogram bisect each other)

$AO = AO$ (Common)

So, by SSS Congruence rule, we have

$\Delta AOB \cong \Delta AOD$

Also,

$\angle AOB = \angle AOD$ (Corresponding parts of congruent triangles are equal)

But, $\angle AOB + \angle AOD = 180^0$ (Linear pairs)

We have, $\angle AOB = \angle AOD$

$$\angle AOB + \angle AOB = 180^0$$

$$2\angle AOB = 180^0$$

$$\angle AOB = \boxed{90^0}$$

Hence, the required measure of $\angle AOB$ is $\boxed{90^0}$.

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