

# Mathematics

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(Chapter – 5) (Introduction to Euclid’s Geometry)(Exemplar Problems)  
(Class – IX)

## Exercise 5.3

Solve each of the following question using appropriate Euclid’s axiom:

### Question 8:

In the Fig. 5.8, we have  $\angle 1 = \angle 3$  and  $\angle 2 = \angle 4$ . Show that  $\angle A = \angle C$ .

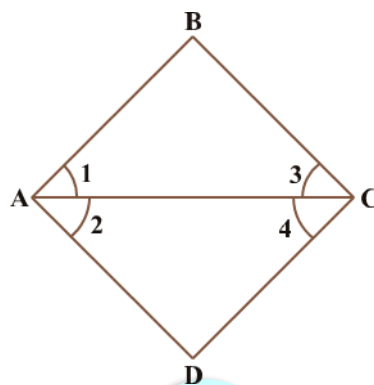


Fig. 5.8

### Answer 8:

Given that:

$$\angle 1 = \angle 3 \quad \dots \text{(i)}$$

and  $\angle 2 = \angle 4 \quad \dots \text{(ii)}$

According to Euclid’s axioms, if equal are added to equals, then wholes are also equal.

On adding equations (i) and (ii), we get

$$\begin{aligned} \Rightarrow \quad \angle 1 + \angle 2 &= \angle 3 + \angle 4 \\ \angle A &= \angle C \end{aligned}$$

