

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 9:

In the Fig. 5.9, we have $\angle ABC = \angle ACB$, $\angle 4 = \angle 3$. Show that $\angle 1 = \angle 2$.

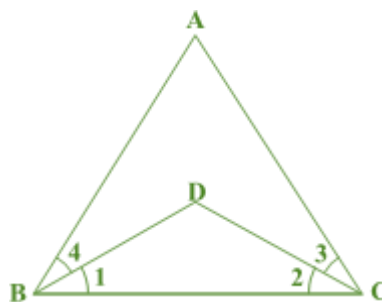


Fig. 5.9

Answer 9:

Given that:

$$\angle ABC = \angle ACB \quad \dots \text{(i)}$$

and

$$\angle 4 = \angle 3 \quad \dots \text{(ii)}$$

According to Euclid’s axioms, if equal are subtract from equals, then remainders are also equal.

On subtracting equation (ii) from equation (i), we get

$$\begin{aligned} \Rightarrow \quad \angle ABC - \angle 4 &= \angle ACB - \angle 3 \\ \angle 1 &= \angle 2 \end{aligned}$$

