

# Mathematics

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(Chapter – 7) (Triangles)(Exemplar Problems)  
(Class – IX)

## Exercise 7.1

Write the correct answer in each of the following:

### Question 4:

In  $\Delta ABC$ ,  $BC = AB$  and  $\angle B = 80^\circ$ . Then  $\angle A$  is equal to

- (A)  $80^\circ$                       (B)  $40^\circ$                       (C)  $50^\circ$                       (D)  $100^\circ$

### Answer 4:

- (C)  $50^\circ$

### Solution:

In a triangle, if two of its sides are equal then the angles opposite to equal sides are also equal.

In  $\Delta ABC$ ,  $BC = AB$  so  $\angle C = \angle A$ . Given that  $\angle B = 80^\circ$

Using angles sum property of triangle, we have

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\Rightarrow \angle A + 80^\circ + \angle C = 180^\circ$$

$$\Rightarrow \angle A + \angle C = 180^\circ - 80^\circ$$

$$\Rightarrow \angle A + \angle A = 100^\circ$$

$$\Rightarrow 2\angle A = 100^\circ$$

$$\Rightarrow \angle A = \frac{100^\circ}{2} = 50^\circ$$



$$[\because \angle B = 80^\circ]$$

$$[\because \angle C = \angle A]$$

Hence, the option (C) is correct.

