

# Mathematics

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(Chapter – 6) (Lines and Angles)(Exemplar Problems)

(Class – IX)

## Exercise 6.1

Write the correct answer in each of the following:

### Question 3:

An exterior angle of a triangle is  $105^\circ$  and its two interior opposite angles are equal. Each of these equal angles is

- (A)  $37\frac{1}{2}$                       (B)  $52\frac{1}{2}$                       (C)  $72\frac{1}{2}$                       (D)  $75^\circ$

### Answer 3:

- (B)  $52\frac{1}{2}$

### Solution:

Let one of interior angle be  $x^\circ$

$\therefore$  Sum of two opposite interior angles = Exterior angle

$$\therefore x^\circ + x^\circ = 105^\circ$$

[Exterior angles =  $105^\circ$ ]

$$\Rightarrow 2x^\circ = 105^\circ$$

$$\therefore x^\circ = \frac{105^\circ}{2}$$

$$\Rightarrow x^\circ = 52\frac{1}{2}$$

Hence, each of equal angle of triangle is  $52\frac{1}{2}$  and option (B) is correct.

