CHAPTER - 3
Constructions

EE24BTECH11061 - Rohith Sai

1 3.2 Triangle

3.2.8 Draw a triangle ABC in which $AB = 5cm$, $BC = 6cm$ and $\angle ABC = 60°$.

Solution:

Variable	Description	Value
a	Length of BC	$6cm$
b	Length of AC	?
c	Length of AB	$5cm$
$\angle ABC$	Angle B	$60°$

TABLE 0

Let $\mathbf{k} = \mathbf{b} + \mathbf{c}$,
Using cosine rule, we can find the length of AC, i.e., **b**:

$$b^2 = a^2 + c^2 - 2ac\cos B \tag{1}$$

(2)

On solving, we get **b** as:

$$\mathbf{b} = \sqrt{31}cm \tag{3}$$

Therefore, we get:

$$\mathbf{k} = \sqrt{31} + 5cm \tag{4}$$

From the above table, we get the following triangle:

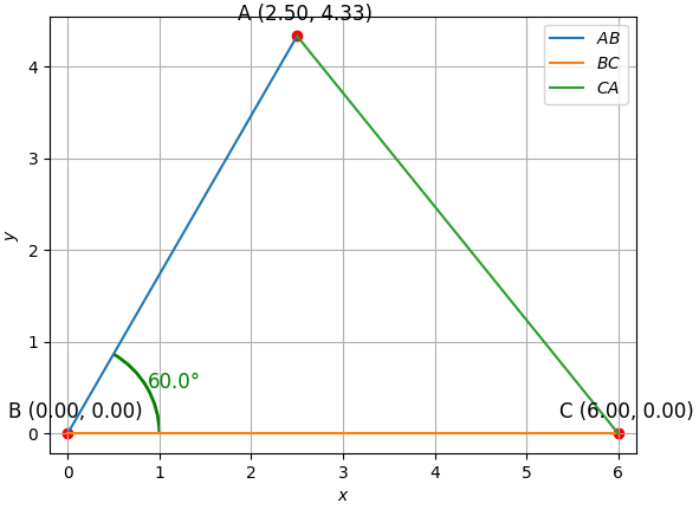

Fig. 0.1