## EE24BTECH11064 - Harshil Rathan

## **Ouestion**:

Draw a triangle ABC in which BC = 7cm, and  $\angle B = 45^{\circ}$ ,  $\angle C = 60^{\circ}$ .

## **Solution:**

Find  $\angle A$ 

Variable	Parameter	Value
BC	a	7 cm
AB	С	-
AC	b	-
∠B	-	45°
∠C	-	60°

$$\angle A + \angle B + \angle C = 180^{\circ} \tag{0.1}$$

$$\angle A = 75^{\circ} \tag{0.2}$$

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Using the Sine Rule,

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \tag{0.3}$$

$$b = \frac{a\sin B}{\sin A} \tag{0.4}$$

$$b = \frac{14\sqrt{2}}{\sqrt{6} + \sqrt{2}}\tag{0.5}$$

$$c = \frac{a \sin C}{\sin A} \tag{0.6}$$

$$c = \frac{14\sqrt{3}}{\sqrt{6} + \sqrt{2}}\tag{0.7}$$

Therefore measure of the sides are, 0.5 0.7 AB = 7.06cm, BC = 7cm, CA = 9cm

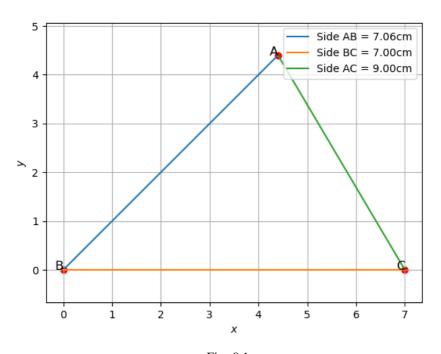


Fig. 0.1