

# 3.3.14

AI25BTECH11030 -Sarvesh Tamgade

**Question:** Construct a right triangle in which the sides, (other than the hypotenuse) are of length 6 cm and 8 cm.

**Solution:**

Let the two perpendicular sides have lengths 6 cm and 8 cm respectively.

Assume vertices:

$$\mathbf{A} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \quad \mathbf{B} = \begin{pmatrix} 6 \\ 0 \end{pmatrix}, \quad \mathbf{C} = \begin{pmatrix} 6 \cos 90^\circ \\ 8 \sin 90^\circ \end{pmatrix} = \begin{pmatrix} 0 \\ 8 \end{pmatrix}$$

This forms a right angle at vertex  $B$ .

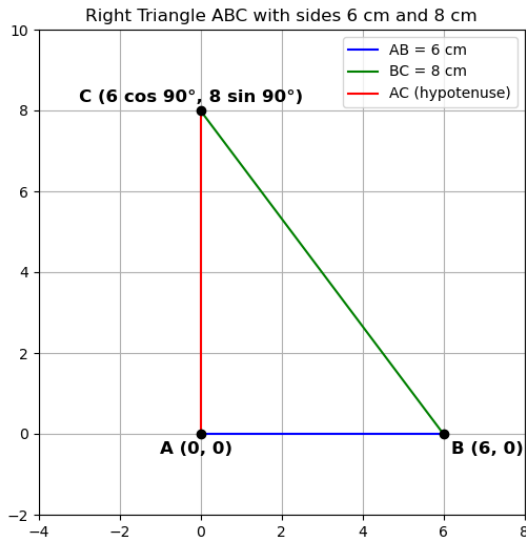


Fig. 0.1: Vector Representation