Assignment 1

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1 QUESTION No.2.4

Draw $\triangle ABC$, $a = 6$, $c = 5$ and $\angle B = 60°$.

2 SOLUTION

The vertex **A** can be expressed in *polar coordinate form* as

$$\mathbf{A} = c\begin{pmatrix} \cos\theta \\ \sin\theta \end{pmatrix}, \mathbf{B} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \mathbf{C} = \begin{pmatrix} a \\ 0 \end{pmatrix}, \qquad (2.0.1)$$

So,the vertices of $\triangle ABC$ are

$$\mathbf{A} = 5\begin{pmatrix} \cos 60 \\ \sin 60 \end{pmatrix} = \begin{pmatrix} 2.5 \\ 2.5\sqrt{3} \end{pmatrix}, \mathbf{B} = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \mathbf{C} = \begin{pmatrix} 6 \\ 0 \end{pmatrix}$$
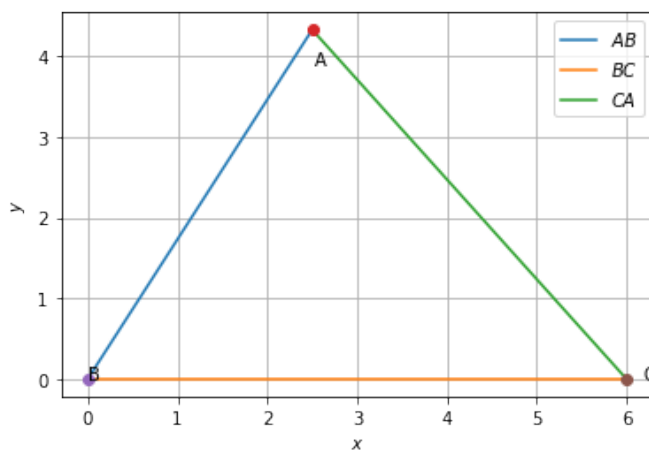$$(2.0.2)$$

Plot of the $\triangle ABC$:

Fig. 2.1: $\triangle ABC$