

# Assignment 1

## Probability And Random Processes

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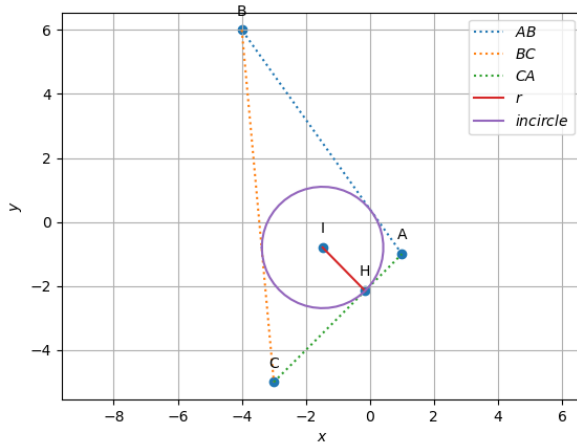


Fig. 0. Incircle of triangle ABC with incentre I and radius r.

### I. QUESTION 1.4.6

Verify that

$$\angle BOC = 2\angle BAC$$

**Solution:** Given,

$$\mathbf{A} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}, \mathbf{B} = \begin{pmatrix} -4 \\ 6 \end{pmatrix}, \mathbf{C} = \begin{pmatrix} -3 \\ -5 \end{pmatrix}$$

Also, solving for point I, we get:

$$\mathbf{I} = \begin{pmatrix} -1.47 \\ -0.81 \end{pmatrix}$$

Using given points, draw figure 0.