



Assignment - 12.11.1.1

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I. PROBLEM

The perpendicular distance from the origin is 5 units and the angle made by the perpendicular with the positive x-axis is 30° . Find the equation of the line ?

II. SOLUTION

$$m = \left(\begin{array}{c} 1 \\ \tan 30^\circ \end{array} \right) \quad (1)$$

$$n = \left(\begin{array}{c} 1 \\ \frac{1}{\sqrt{3}} \end{array} \right) \quad (2)$$

$$P = \frac{10}{\sqrt{3}} \quad (3)$$

Equation

$$n^T (x - P) = 0 \quad (4)$$

$$\left(1 \quad \frac{1}{\sqrt{3}} \right) x = \frac{10}{\sqrt{3}} \quad (5)$$

$$(\sqrt{3} \quad 1) x = 10 \quad (6)$$

III. FIGURE

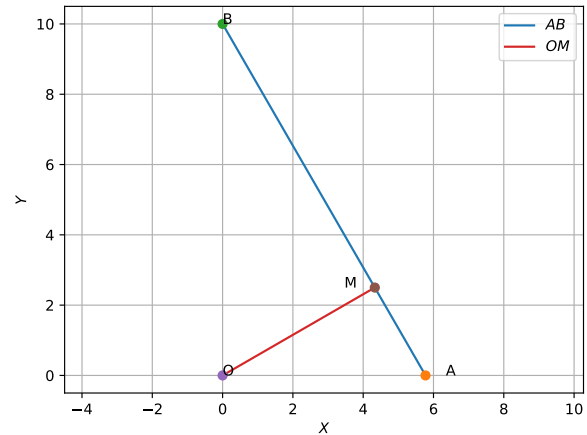


Fig. 1