LINE

1 11th Maths - EXERCISE-10.2

1. Passing through the point $(-4, 3)$ with slope $\frac{1}{2}$

2 SOLUTION

Given points are

$$\mathbf{p} = \begin{pmatrix} -4 \\ 3 \end{pmatrix}, m = \frac{1}{2} \qquad (1)$$

The line formula in matrix form

$$\mathbf{m}^\top (\mathbf{X} - \mathbf{p}) = 0 \qquad (2)$$

$$\mathbf{m} = \begin{pmatrix} 1 \\ m \end{pmatrix} \qquad (3)$$

$$\begin{pmatrix} 1 & 2 \end{pmatrix} (\mathbf{X} - \mathbf{P}) = 0 \qquad (4)$$

$$\begin{pmatrix} 1 & -2 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} - \begin{pmatrix} -4 \\ 3 \end{pmatrix} = 0 \qquad (5)$$

$$x - 2y = -10 \qquad (6)$$

Figure 1: line

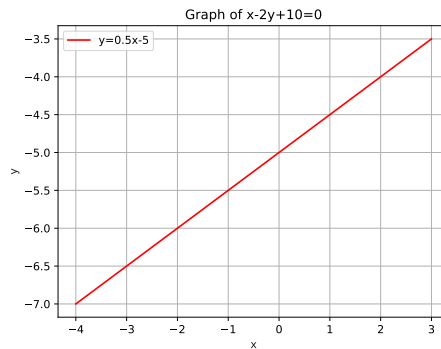## 3 Figure