# 4.3.50

EE25BTECH11060 - V.Namaswi

**Question**

Find the equation of the lines which makes intercepts -3 and 2 on the x and y axes respectively.

**Solution**

Let $(-3, 0)$ and $(0, 2)$ be the intercept points

$$\mathbf{m} = \begin{pmatrix} -3 \\ 0 \end{pmatrix} - \begin{pmatrix} 0 \\ 2 \end{pmatrix} \tag{1}$$

$$\mathbf{m} = \begin{pmatrix} 1 \\ \frac{2}{3} \end{pmatrix} \tag{2}$$

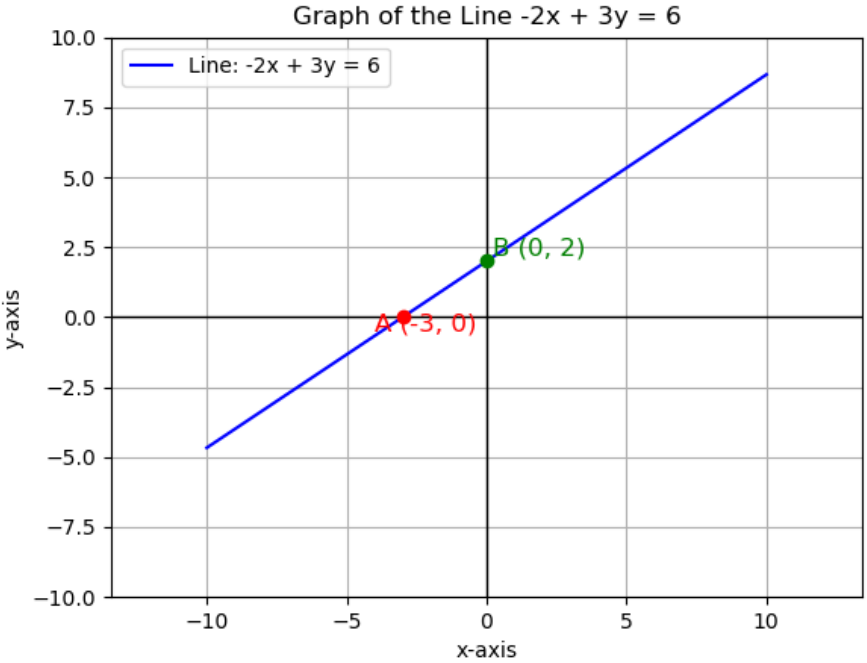
$$\mathbf{n} = \begin{pmatrix} \frac{-2}{3} \end{pmatrix} \tag{3}$$

Equation of line is given by $n^\top (x - h) = 0$

$$\begin{pmatrix} \frac{-2}{3} & 1 \end{pmatrix} \left( x - \begin{pmatrix} 0 \\ 2 \end{pmatrix} \right) = 0 \tag{4}$$

$$\begin{pmatrix} \frac{-2}{3} & 1 \end{pmatrix} x = 2 \tag{5}$$

Refer fig


Graph of the Line -2x + 3y = 6
Line: -2x + 3y = 6
B (0, 2)
A (-3, 0)
y-axis
x-axis
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−10
−5
0
5
10