

# STRAIGHT LINES

January 20, 2023

1. **Problem statement :** Find the slope of a line, which makes an angle of  $30^\circ$  with positive direction of y-axis measured anticlockwise

**Solution:**

The slope  $m$  of a line making an angle  $\theta$  with the positive direction of x axis in anticlockwise direction is given by,

$$m = \tan \theta \quad (1)$$

The angle made by the line with the positive direction of x-axis in anticlockwise direction is,

$$\theta = 90^\circ + 30^\circ = 120^\circ \quad (2)$$

Substitute the value of  $\theta$  in equation (1)

$$m = \tan 120^\circ = -\sqrt{3} \quad (3)$$

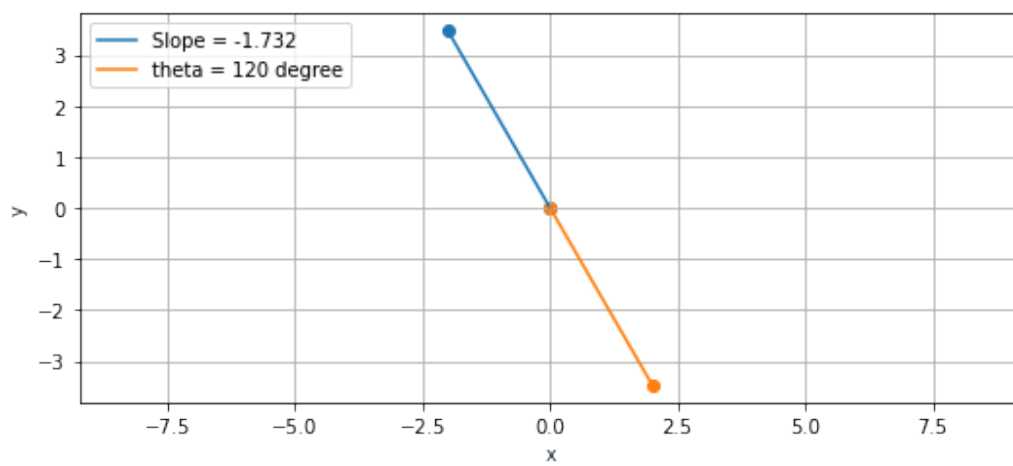


Figure 1: