Parallel Lines

11^{th} Maths - Chapter 10

This is Problem-3 from Exercise 10.4

1. Find the equations of the lines, which cut-off intercepts on the axes whose sum and product are 1 and -6,resspectively.

1 Solution

Let the x intercept be a and the y intercept be b ,Then

$$\big(a+b\big) = 1 \tag{1}$$
$$\big(ab\big) = -6 \tag{2}$$

upon simplifying (1) and (2)

$$\binom{a}{b} = \binom{3}{-2}, \binom{-2}{3} \tag{3}$$

Thus,the posiible equations of the line as

$$\big(2,-3\big)\,\mathbf{x} = 6 \tag{4}$$
$$\big(-3,2\big)\,\mathbf{x} = 6 \tag{5}$$

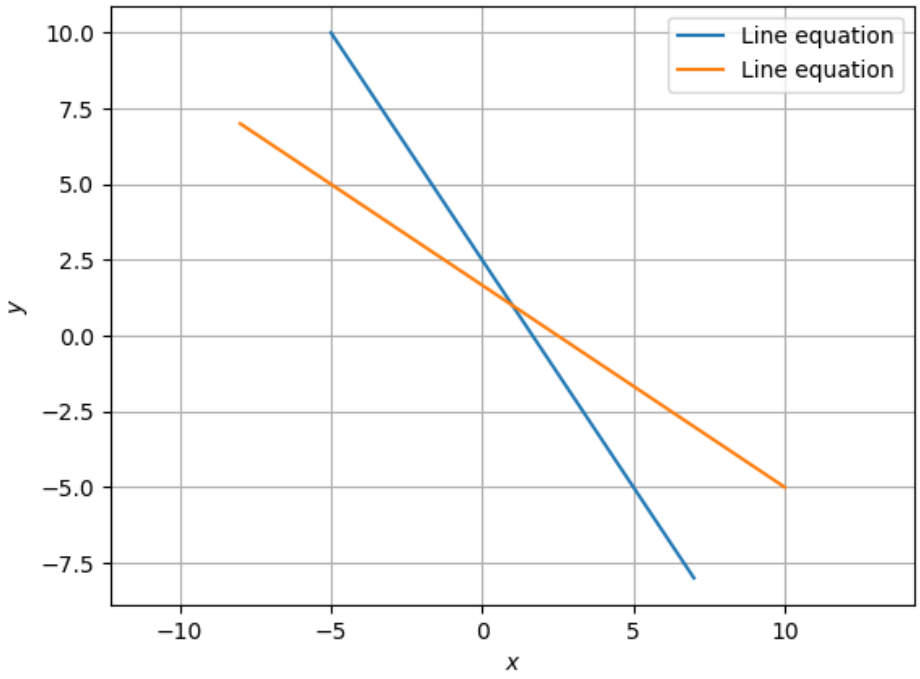
Line equation
Line equation
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
y
−10
−5
0
5
10
x

Figure 1