

Assignment - 1 New

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Abstract—This is a simple document to learn about vectors

Download all and latex-tikz codes from

svn co https://github.com/arjunjc93/Assignment-1_new.git

1 VECTORS

1.1. Draw the graphs of the following equations:

$$3x - 4y + 6 = 0$$

$$3x + y - 9 = 0$$

Also determine the co-ordinates of the vertices of the triangle formed by these lines and the x-axis.

Solution: In Equation 1,

$$3x - 4y + 6 = 0$$

\therefore

$$y = \frac{3x + 6}{4}$$

Representing this equation graphically. Solutions in Table 1.1.

x	-2	6
$y = \frac{3x+6}{4}$	0	6

TABLE 1.1

In Equation 2,

$$3x + y - 9 = 0$$

\therefore

$$y = 9 - 3x$$

Representing this equation graphically. Solutions in Table 1.2.

x	0	3
$y = 9 - 3x$	0	6

TABLE 1.1

Plot the points

$$\mathbf{P}(6 \ 6)$$

$$\mathbf{Q}(-2 \ 0)$$

$$\mathbf{R}(0 \ 9)$$

$$\mathbf{S}(3 \ 0)$$

corresponding to the solutions in Table 1.1
1.2. Draw the lines **PQ RS**, representing the equations as shown in Fig. 1.1

In Fig. 1.1, observe that the two lines representing the two equations are intersecting at the point

$$(2 \ 3)$$

Co-ordinates of the vertices of the triangle formed by the lines and the x-axis are

$$(2 \ 3)$$

$$(-2 \ 0)$$

$$(3 \ 0)$$

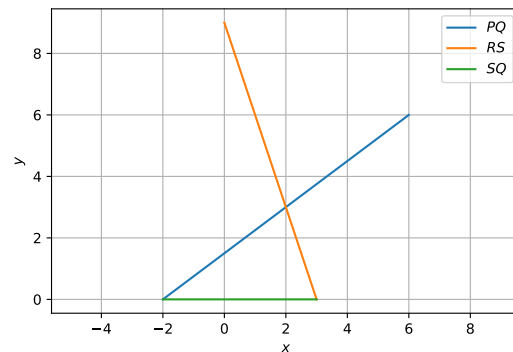


Fig. 1.1. Two lines representing given equations meet at point $(2 \ 3)$