

Assignment - 4

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Download all and latex-tikz codes from

svn co <https://github.com/Ganeshyadav712/Assignment-4.git>

Question taken from

https://github.com/gadepall/ncert/blob/main/linalg/linear_forms/gvv_ncert_linear_forms.pdf-2.3 a,c

$$\text{let } X = \begin{pmatrix} a \\ 0 \end{pmatrix}$$

$$(3 \quad -1) \begin{pmatrix} a \\ 0 \end{pmatrix} = 0$$

$$a = 0 \quad (6)$$

$$\text{similarly let } X = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

$$(3 \quad -1) \begin{pmatrix} 0 \\ b \end{pmatrix} = 0 \quad (7)$$

$$b = 0 \quad (8)$$

$$P = \begin{pmatrix} 0 \\ 0 \end{pmatrix},$$

for Q point,
let $x = \begin{pmatrix} x \\ y \end{pmatrix}$

$$(3 \quad -1) X = 0 \quad (9)$$

if

$$x = 2 \quad (10)$$

$$\Rightarrow y = 6 \quad (11)$$

$$Q = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

intercept on X and Y axis for equation 2 can be

$$P = \begin{pmatrix} 0 \\ 0 \end{pmatrix}, Q = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

1 QUESTION

Draw the graphs of the following equations

$$a) \begin{pmatrix} 1 \\ 1 \end{pmatrix} X = 4 \quad (1)$$

$$b) \begin{pmatrix} 3 \\ -1 \end{pmatrix} X = 0 \quad (2)$$

2 SOLUTION

for equation 1

$$\text{let } X = \begin{pmatrix} a \\ 0 \end{pmatrix}$$

$$(1 \quad 1) \begin{pmatrix} a \\ 0 \end{pmatrix} = 4$$

$$a = 4 \quad (3)$$

$$\text{similarly let } X = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

$$(1 \quad 1) \begin{pmatrix} 0 \\ b \end{pmatrix} = 4 \quad (4)$$

$$b = 4 \quad (5)$$

intercept on X and Y axis for equation 1 can be

$$A = \begin{pmatrix} 4 \\ 0 \end{pmatrix}, B = \begin{pmatrix} 0 \\ 4 \end{pmatrix}$$

for equation 2

$$(3 \quad -1) X = 0$$

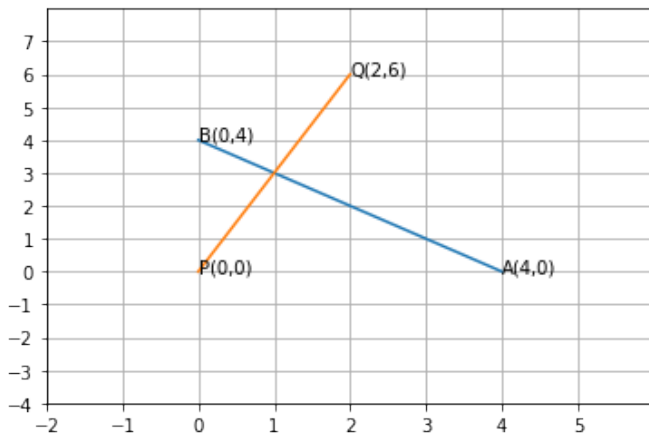


Fig. 2.1. graph assignment 4