Assignment 1

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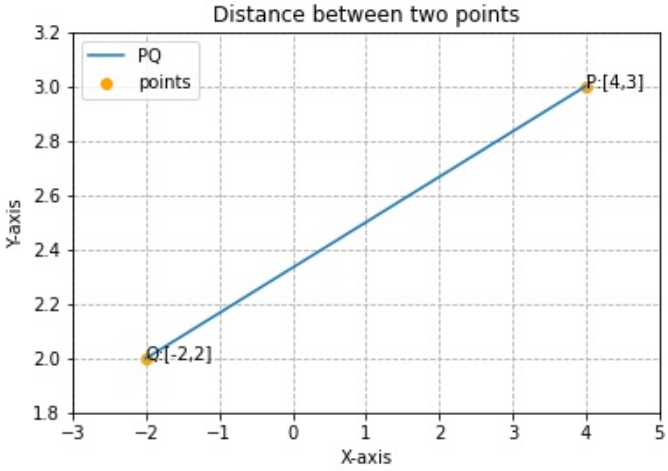
Download all python codes from

https://github.com/sachinkarumanchi/EE3900/blob/main/assignment_1.pdf

and latex codes from

https://github.com/sachinkarumanchi/EE3900/blob/main/assignment_1.tex



PROBLEM(RAMSEY/1.1 POINTS/Q.2(B))

Find the length of **PQ** for

$$\mathbf{P} = \begin{pmatrix} 4 \\ 3 \end{pmatrix} \text{ and } \mathbf{Q} = \begin{pmatrix} -2 \\ 2 \end{pmatrix}$$

SOLUTION

Let d be the distance between **P** and **Q**
Therefore, d is given by

$$d = \|\mathbf{P} - \mathbf{Q}\| \tag{0.0.1}$$

Let **R** be **P** − **Q**

$$\mathbf{R} = \begin{pmatrix} 4 \\ 3 \end{pmatrix} - \begin{pmatrix} -2 \\ 2 \end{pmatrix} \tag{0.0.2}$$

$$\mathbf{R} = \begin{pmatrix} 6 \\ 1 \end{pmatrix} \tag{0.0.3}$$

from (0.0.1) and (0.0.3)

$$d = \|\mathbf{R}\| \tag{0.0.4}$$

$$d = \sqrt{6^2 + 1^2} \tag{0.0.5}$$

$$d = \sqrt{37} \tag{0.0.6}$$

$$d \approx 6.0827 \tag{0.0.7}$$

∴The length of **PQ** is close to 6.0827