1-1.8-15

EE24BTECH11022 - Eshan Sharma

Question:
The distance between the points $(0,5)$ and $(-5,0)$ is
Solution:

Symbol	Value	Description
A	$\begin{pmatrix}0\\5\end{pmatrix}$	First point
B	$\begin{pmatrix}-5\\0\end{pmatrix}$	Second point

TABLE 0: Variables Used

Distance between A and B, d is

$$\mathbf{A}-\mathbf{B}=\begin{pmatrix}0\\5\end{pmatrix}-\begin{pmatrix}-5\\0\end{pmatrix}=\begin{pmatrix}5\\5\end{pmatrix} \tag{1}$$

$$\left(A-B\right)^{T}\left(A-B\right)=50 \tag{2}$$

$$d=\|\mathbf{A}-\mathbf{B}\|=\sqrt{50} \tag{3}$$

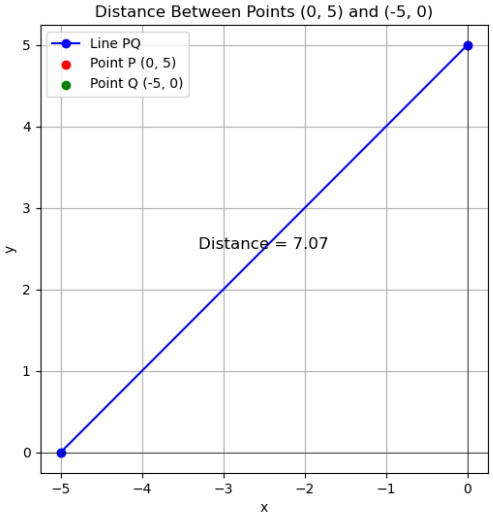

Fig. 0: Circle with Diameter AB and Center $O(-2, 2)$