4.4.19

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September 17, 2025

Question

Assertion (A): Point P(0,2) is point of intersection of Y-axis with the line $3x + 2y = 4$.
Reason (R): The distance of point $P(0, 2)$ from X-axis is 2 units.

Solution

The given equation can be expressed as

$$\begin{pmatrix} 3 & 2 \end{pmatrix} x = 4 \tag{1}$$

where $n^\top = \begin{pmatrix} 3 & 2 \end{pmatrix}$ and $c = 4$.

Solution

Putting $P(0,2)$ in the equation of line

$$n^\top P = 4 = c \tag{2}$$

Since $(0,2)$ lies on y axis, Assertion is correct.

Solution

Distance of (x, y) from x-axis is $|y|$

Hence Reason is also correct but it is not a valid reason for assertion.

plot