

## 4.4.19

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**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.

**The given equation can be expressed as**

$$\begin{pmatrix} 3 & 2 \end{pmatrix} x = 4 \quad (1)$$

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

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

$$n^T P = 4 = c \quad (2)$$

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

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

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

