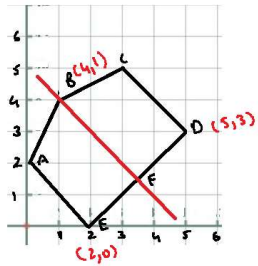


Find the equation for line of Symmetry for the shape shown in the figure.



Solⁿ:- line of Symmetry passes through B & Midpoint of ED.

Let F is Midpoint of ED.

Coordinates of E are (2,0) co-ordinates of D are (5,3)

So Midpoint co-ordinates are $F\left(\frac{2+5}{2}, \frac{3+0}{2}\right) = \left(\frac{7}{2}, \frac{3}{2}\right)$

Co-ordinates of B are (4,1)

So we have 2 points B(4,1) & $F\left(\frac{7}{2}, \frac{3}{2}\right)$ on the line of Symmetry

By two point form $y - y_1 = \left(\frac{y_2 - y_1}{x_2 - x_1}\right)(x - x_1)$ let $(x_1, y_1) = (4, 1)$
 $(x_2, y_2) = \left(\frac{7}{2}, \frac{3}{2}\right)$

$$\text{So } y - 1 = \left(\frac{\frac{3}{2} - 1}{\frac{7}{2} - 4}\right)(x - 4) \quad \text{or } y - 1 = \frac{-\frac{1}{2}}{-\frac{1}{2}}(x - 4)$$

$$y - 1 = (-1)(x - 4) \quad \text{or } y - 1 = -x + 4$$

$$y = -x + 5$$

So equation of line of Symmetry is $y = -x + 5$.