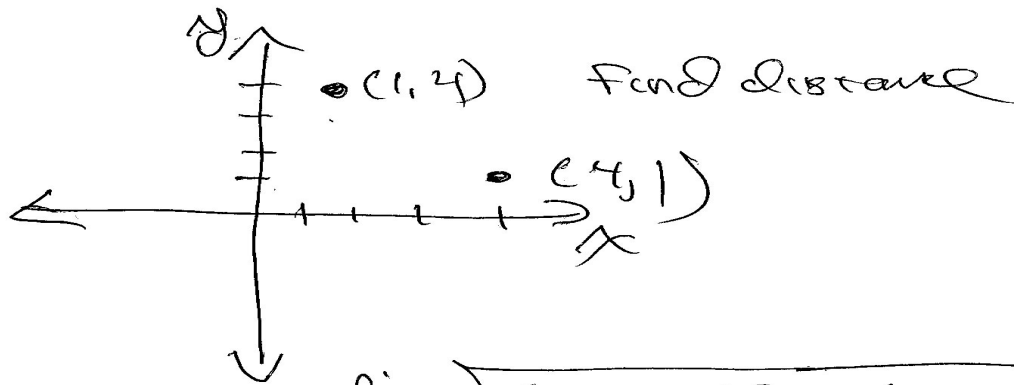


Distance Formula



$$d = \sqrt{(y_2 - y_1)^2 + (x_2 - x_1)^2}$$

$$d = \sqrt{(1 - 4)^2 + (4 - 1)^2}$$

$$(x_1, y_1) = (1, 4) = \sqrt{(-3)^2 + (3)^2}$$

$$(x_2, y_2) = (4, 1) = \sqrt{9 + 9}$$

$$= \sqrt{2 \cdot 9}$$

$$= \sqrt{2} \sqrt{9}$$

midpoint

$$x_m = \frac{x_1 + x_2}{2} = \frac{1 + 4}{2} = \frac{5}{2} = 3\sqrt{2}$$

$$y_m = \frac{y_1 + y_2}{2} = \frac{4 + 1}{2} = \frac{5}{2}$$