

- Distance formula finds the distance between two points
- Mid-point formula finds the point that is halfway between two points

Distance Formula

$$d = \sqrt{(x - x_1)^2 + (y - y_1)^2}$$

Example, find the distance between (2, 4) and (5, 10)

$$d = \sqrt{\underset{\uparrow}{x} - \underset{\uparrow}{x_1}}^2 + \underset{\uparrow}{y} - \underset{\uparrow}{y_1}}^2$$

$$d = \sqrt{(2 - 5)^2 + (4 - 10)^2}$$

$$= \sqrt{(-3)^2 + (-6)^2}$$

$$= \sqrt{9 + 36}$$

$$d = \sqrt{45} \approx 6.70$$