

Notes Monday 9/10/12 + Tuesday 9/11/12

Distance Formula

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

example:

find the distance between pt A (6, 3) and B (2, -1)

	x, y
1 A	(6, 3)
2 B	(2, -1)

$$d = \sqrt{(2 - 6)^2 + (-1 - 3)^2}$$

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

(squaring a neg. (-) always makes a positive)

$$d = \sqrt{16 + 16}$$

$$d = \sqrt{32}$$

$$d \approx 5.7$$

Midpoint Formula

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

example:

find the midpoint of line \overline{AB} with points A (-4, 3) and B (6, -1)

$$m = \left(\frac{-4 + 6}{2}, \frac{3 + (-1)}{2} \right)$$

$$m = \left(\frac{2}{2}, \frac{2}{2} \right)$$

$$m = (1, 1)$$

	x, y
1 A	(-4, 3)
2 B	(6, -1)