Coordinate Geometry Formulas:

Distance Formula:

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

Midpoint Formula:

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

Graphing formulas

$y = mx + b$

$y - y_1 = m(x-x_1)$

Distance between two points = make a right triangle and solve for the hypotenuse

Midpoint = average together the x values and the y values, or:

$$M = \left(\frac{X_1 + X_2}{2}\right), \left(\frac{Y_1 + Y_2}{2}\right)$$

Coordinate Geometry Formulas

Let (x_1, y_1) and (x_2, y_2) be two coordinate pairs

slope = $\frac{y_2 - y_1}{x_2 - x_1}$ where $x_2 \neq x_1$

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

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

DISTANCE BETWEEN TWO POINTS:

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

MID-POINT BETWEEN TWO POINTS:

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