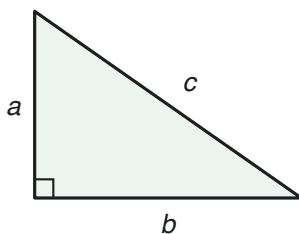


Triangle and Coordinate Geometry Formulas

Right triangles, angle sums, and the distance, midpoint and slope formulas.

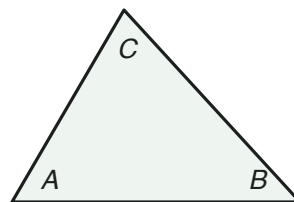
Pythagorean Theorem



$$a^2 + b^2 = c^2$$

c is the hypotenuse, opposite the right angle

Angles

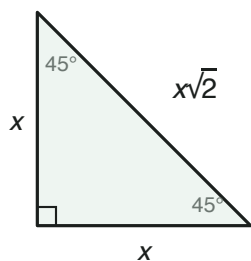


$$A + B + C = 180^\circ$$

Interior angles of a polygon with n sides add up to

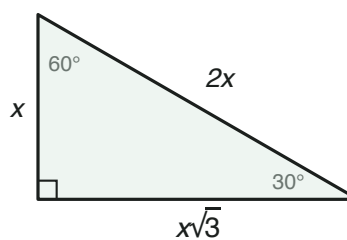
$$(n - 2) \cdot 180^\circ$$

45-45-90 Triangle



legs x , hypotenuse $x\sqrt{2}$

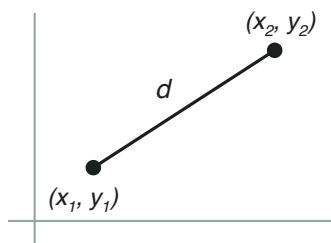
30-60-90 Triangle



short leg x , long leg $x\sqrt{3}$

hypotenuse $2x$

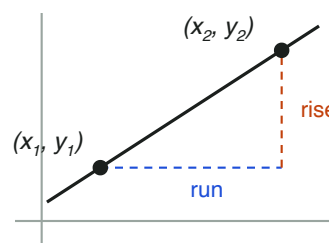
Distance and Midpoint



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

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

Slope of a Line



$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\text{rise}}{\text{run}}$$

Slope-intercept form: $y = mx + b$