Rectangular Coordinate System

Quadrant II

Quadrant III

Quadrant IV

Quadrant I

(left or right, up or down)

Pythagorean Theorem: $a^2 + b^2 = c^2$
\[ (x_2-x_1)^2 + (y_2-y_1)^2 = d^2 \]

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

Ex: Find distance between \((4,5)\) and \((10,13)\)

\[ d = \sqrt{(10-4)^2 + (13-5)^2} = \sqrt{6^2 + 8^2} = \sqrt{36 + 64} = 10 \]