

Mon
10/19

P6 The rectangular Coordinate System

Deisy Gonzales
MATH 1314 + MATH 0270
College Algebra with Foundations
Mr. Brice

Cartesian Coordinate
System
by
Rene Descartes

QUADRANT II

Y
A
X
I
S

Quadrant I

$(-, +)$

$(+, +)$

x-coordinate

$(4, 5)$

y-coordinate

$(0, 2)$

Points on the x-axis

have a y-coordinate of 0.
 $(-5, 0)$ $(-2, 0)$ $(1, 0)$ $(3, 0)$ $(5, 0)$

X axis

$(0, -3)$

$(0, -5)$

Points on the y-axis
have x-coordinate of 0.

$(-, -)$

$(+, -)$

QUADRANT III

QUADRANT IV

Find the distance between two points.

use Pythagorean Theorem

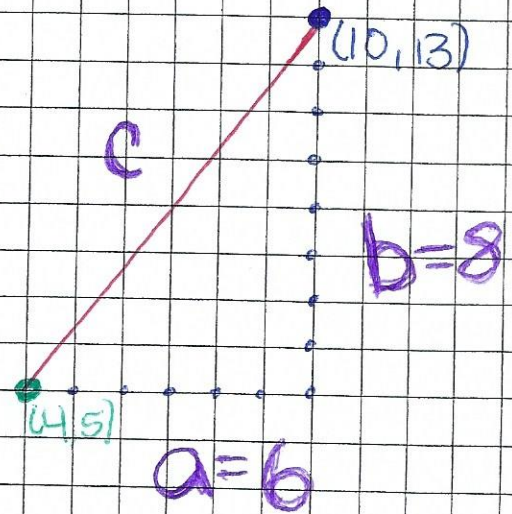
$$a^2 + b^2 = c^2$$

$$6^2 + 8^2 = c^2$$

$$36 + 64 = c^2$$

$$100 = c^2$$

$$\sqrt{100} = c \quad \text{c} = 10$$



Or use the distance formula

(4, 5) and (10, 13)

$\begin{matrix} x_1 & y_1 \\ (4, 5) \end{matrix}$ $\begin{matrix} x_2 & y_2 \\ (10, 13) \end{matrix}$

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

$$d = \sqrt{(10 - 4)^2 + (13 - 5)^2}$$

$$d = \sqrt{6^2 + 8^2}$$

$$d = \sqrt{100}$$

$$\boxed{d = 10}$$

$$\leftarrow d = \sqrt{36 + 64}$$