

11/11 - Agenda

- Hand-in PS4
- Hand-out Exam 3 Review
- Discuss Coordinates and Circles
- Take Quiz 5

Sec. 8.1 HW: Get started over weekend, then finish Monday after class.

3, 4, 7, 9, 21 - 37 odd, 38, 39-43 odd,
53, 57, 59, 62, 65

Nov 11-8:40 AM

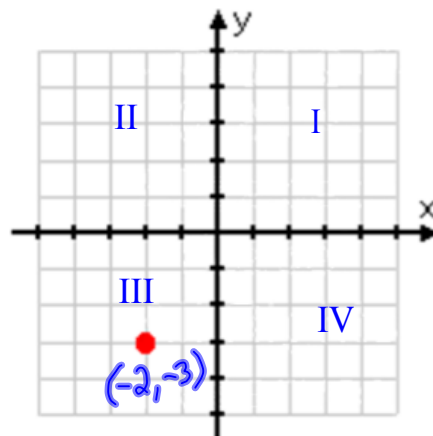
Cartesian Coordinate Plane

coordinates

x-axis

y-axis

origin



quadrants

Nov 11-8:43 AM

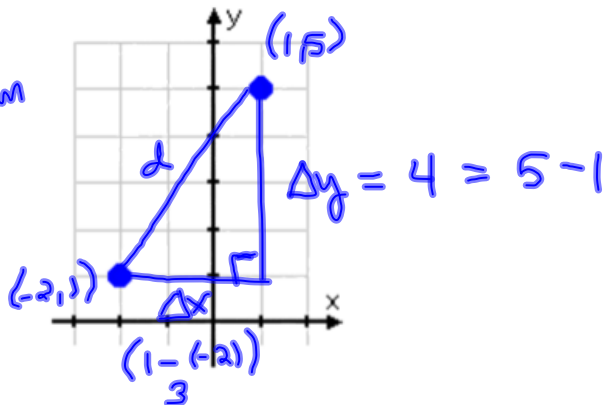
Find the distance between $(-2, 1)$ and $(1, 5)$.

Pythagorean Theorem

$$\sqrt{3^2 + 4^2} = d$$

$$\sqrt{25} = d$$

$$5 = d$$



Find the distance between (x_1, y_1) and (x_2, y_2) .

$$d = \sqrt{(\Delta x)^2 + (\Delta y)^2}$$

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

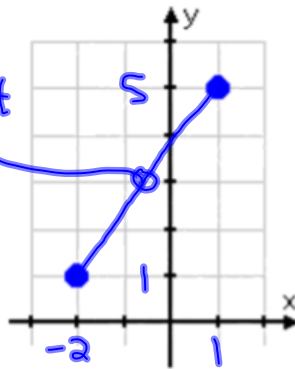
Nov 11-8:44 AM

Find the midpoint between $(-2, 1)$ and $(1, 5)$.

Midpoint
 $(-\frac{1}{2}, 3)$

$$x_m = \frac{-2+1}{2} = -\frac{1}{2}$$

$$y_m = \frac{5+1}{2} = 3$$



Find the midpoint between (x_1, y_1) and (x_2, y_2) .

The midpoint will be (x_m, y_m)

where $x_m = \frac{x_1 + x_2}{2}$

and $y_m = \frac{y_1 + y_2}{2}$.

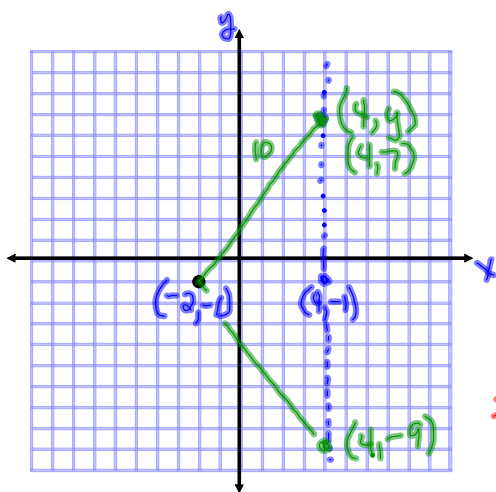
Nov 11-8:45 AM

Circles

Find all points $(4, y)$ that are 10 units from the point $(-2, -1)$.

Find all points $(x, 5)$ that are 10 units from the point $(-2, -1)$.

Find all points $(x, -7)$ that are 10 units from the point $(-2, -1)$.



$$d = \sqrt{(\Delta x)^2 + (\Delta y)^2}$$

$$10 = \sqrt{(4 - (-2))^2 + (y - (-1))^2}$$

$$10^2 = \sqrt{6^2 + (y+1)^2}$$

$$100 = 36 + (y+1)^2$$

$$-36 \quad -36$$

$$\pm \sqrt{64} \pm \sqrt{(y+1)^2}$$

$$\pm 8 = y+1$$

$$8 = y+1 \quad \text{or} \quad -8 = y+1$$

$$7 = y \quad \text{or} \quad -9 = y$$

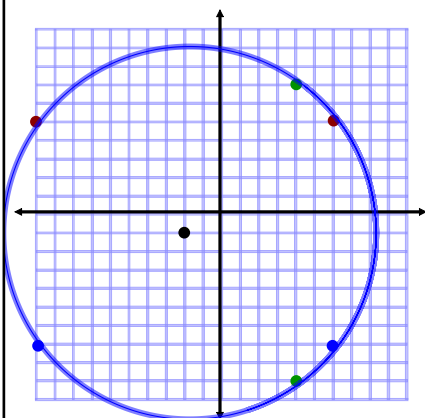
Nov 11-9:00 AM

Circles

Find all points $(4, y)$ that are 10 units from the point $(-2, -1)$.

Find all points $(x, 5)$ that are 10 units from the point $(-2, -1)$.

Find all points $(x, -7)$ that are 10 units from the point $(-2, -1)$.



Nov 11-9:00 AM