

Warm Up

Solve the equation.

1) $3x + 6(x + 3) = 3(x - 2)$

$$3x + 6x + 18 = 3x - 6$$

$$9x + 18 = 3x - 6$$

$$+6 \quad +6$$

$$9x + 24 = 3x$$

$$-9x \quad -9x$$

$$\frac{24 = -6x}{-6 \quad -6}$$

$$x = -4$$

2) $\frac{2}{3}x + 5 = 20$

$$-5 \quad -5$$

$$\frac{3}{2} \cdot \frac{2}{3} x = 15 \cdot \frac{3}{2}$$

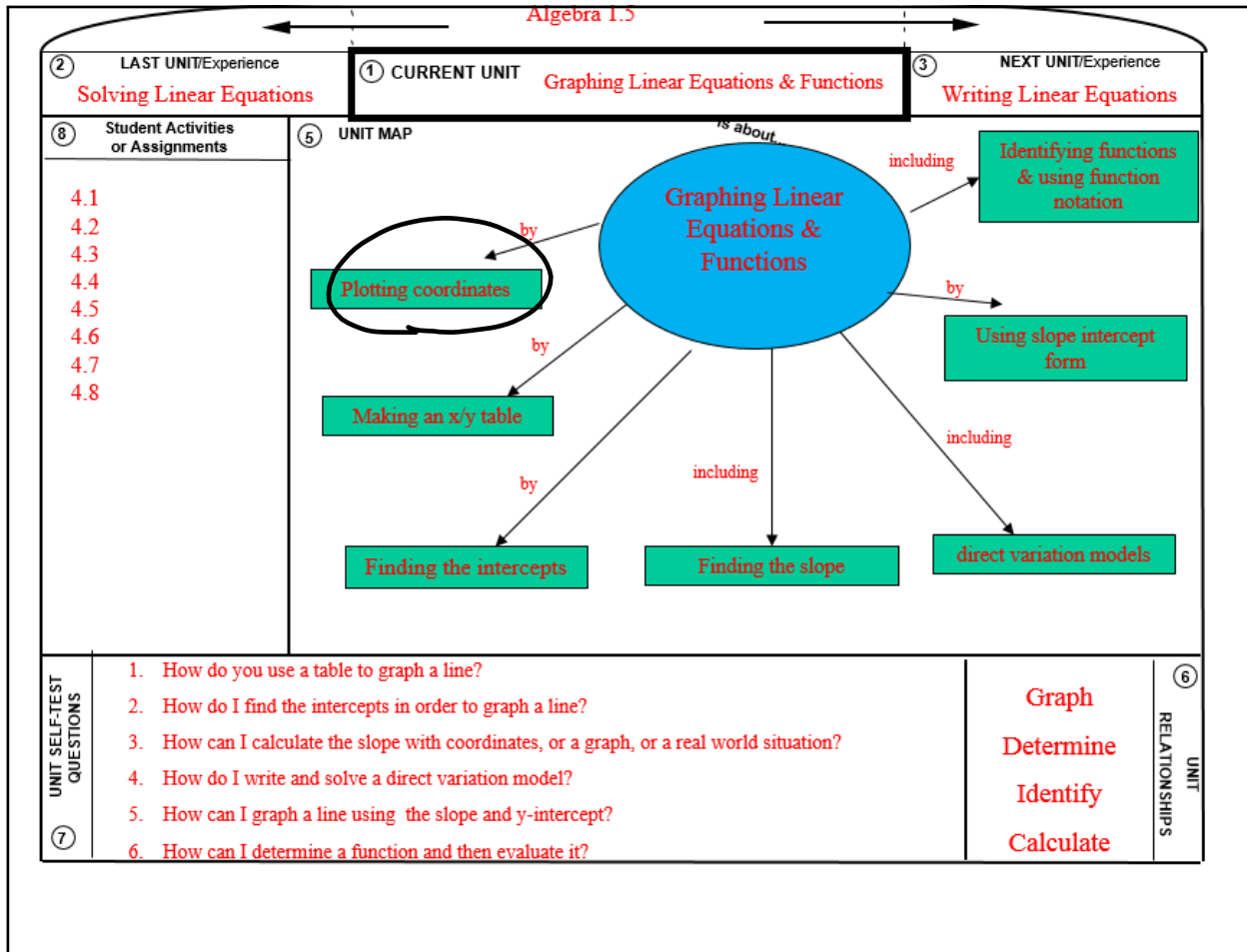
$$x = \frac{45}{2}$$

When done, you can finish "Graphic Facts" wkst

4.1 The Coordinate Plane

Goals: • Plot points in a coordinate plane.

EQ: Draw and label the quadrants, x-axis, and y-axis.



Vocabulary

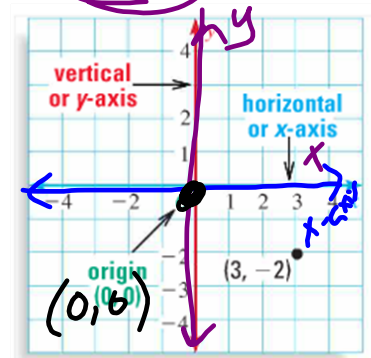
Coordinate plane:

formed by two real number lines that intersect at a right angle

Origin: the point in the graph located at the intersection of each axis **(0,0)**

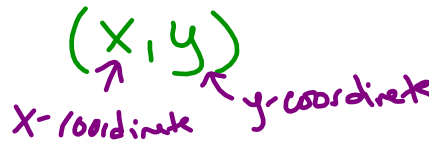
x-axis: horizontal axis in a coordinate plane
↔

y-axis: vertical axis in a coordinate plane
↕



Ordered pair:

a point in the plane that is created by aligning each coordinate



x-coordinate:

the first number in the ordered pair, it corresponds to the horizontal position

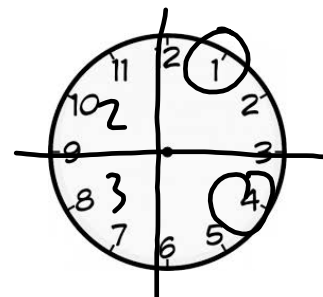
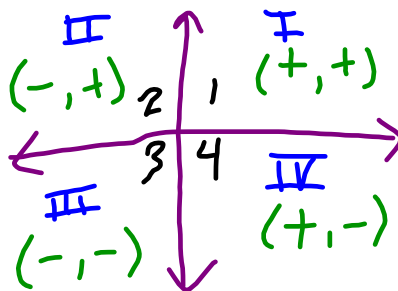
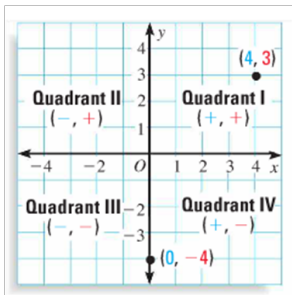


y-coordinate:

the second number in the ordered pair, it corresponds to the vertical position



Quadrant: a subdivision of the graph by the axis



Scatter plot:

a graph of pairs of numbers that represent real-life situations

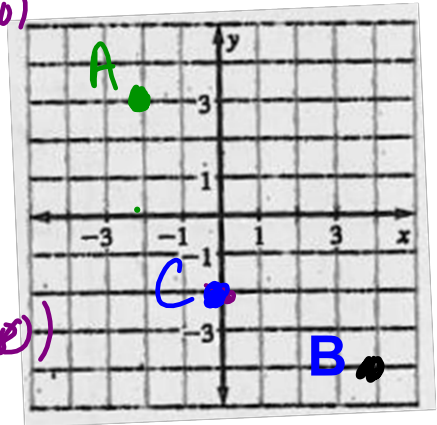
Example 1: Plot Points in a Coordinate Plane

Plot the points $A(-2, 3)$, $B(3, -4)$, and $C(0, -2)$ in a coordinate plane.

To plot the point $A(-2, 3)$, start at the origin (0,0).
Move 2 units to the Left and 3 units up.

To plot the point $B(3, -4)$, start at the origin (0,0).
Move 3 units to the right and 4 units down.

To plot the point $C(0, -2)$, start at the origin (0,0).
Move 0 units to the stay and 2 units down.



L \leftrightarrow R

Up/Down

Example 2: Identify Quadrants

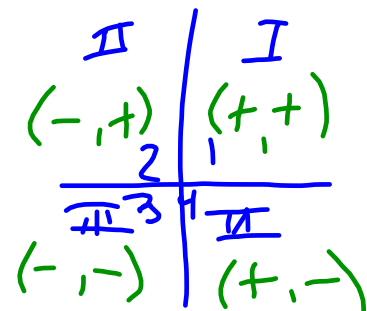
Name the quadrants the following points are in.

a. $D(-2, -9)$ 3 III

b. $E(12, 4)$ 1 I

c. $F(-3, 4)$ II 2

d. $G(7, -2)$ IV 4



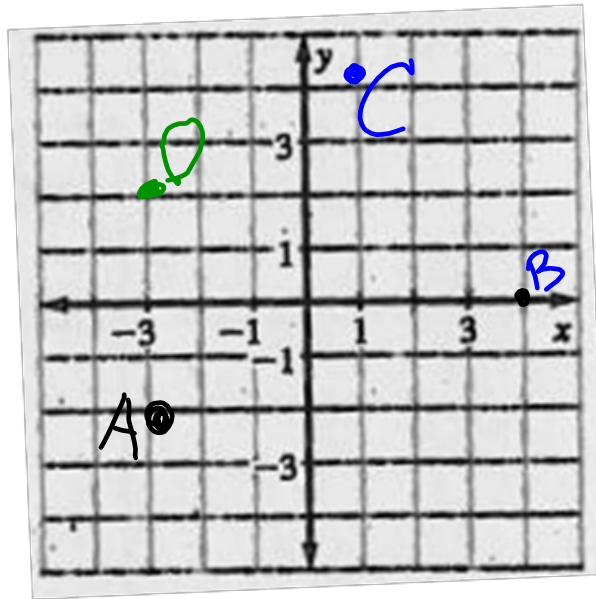
Try It Plot the points in the same coordinate plane.

1. $A(-3, -2)$

2. $B(4, 0)$
x-axis

3. $C(1, 4)$

4. $D(-3, 2)$



②

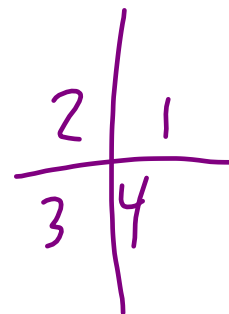
Try It Name the quadrant the point is in.

5. $(-6, 7)$ 2

6. $(-6, -7)$ 3

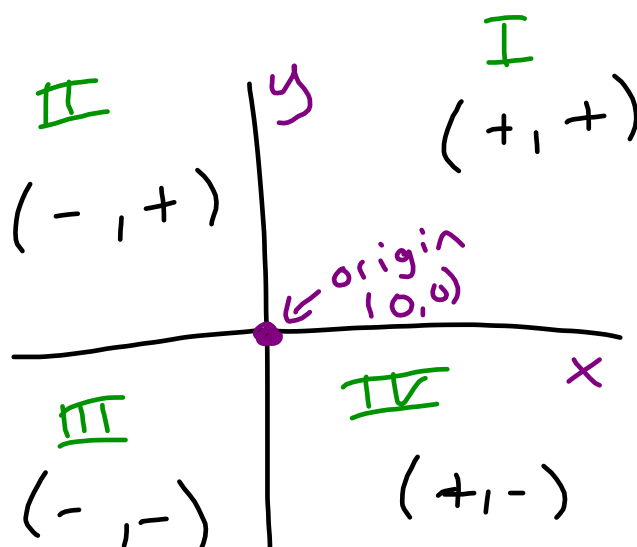
7. $(6, -7)$ 4

8. $(6, 7)$ 1



4.1 Summary

EQ: Draw and label the quadrants, x-axis, and y-axis.



4.1 Homework

p.206 #10-26, 52-57

(Do #13-18 on Graph Paper)