Warm Up

Pick up and do the Graphic Facts wkst

*Make sure your Name and Hour are on them

4.1 Coordinates and Scatter Plots

Goals:
- Plot points in a coordinate plane.
- Draw a scatter plot and make predictions about real-life situations.

EQ: Draw a coordinate plane and label all four quadrants. Label a point in each.

The Unit Organizer

NAME
DATE Mo/Date/Year

Algebra 1.5

② LAST UNIT/Experience: Solving Linear Equations

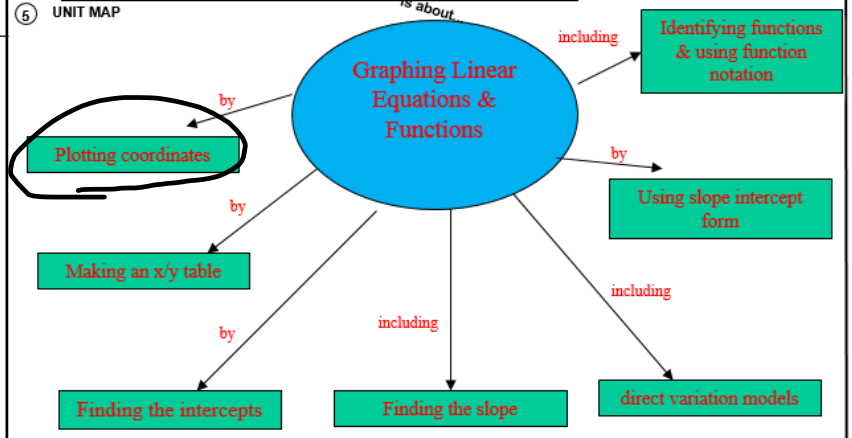
① CURRENT UNIT: Graphing Linear Equations & Functions

③ NEXT UNIT/Experience: Writing Linear Equations

⑧ Student Activities or Assignments

4.1
4.2
4.3
4.4
4.5
4.6
4.7
4.8

⑤ UNIT MAP



⑦ UNIT SELF-TEST QUESTIONS

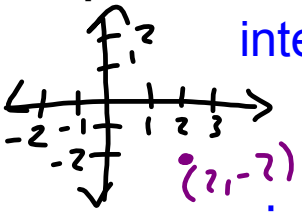
1. How do you use a table to graph a line?
2. How do I find the intercepts in order to graph a line?
3. How can I calculate the slope with coordinates, or a graph, or a real world situation?
4. How do I write and solve a direct variation model?
5. How can I graph a line using the slope and y-intercept?
6. How can I determine a function and then evaluate it?

⑥ UNIT RELATIONSHIPS

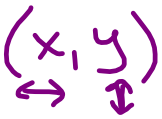
Graph
Determine
Identify
Calculate

Vocabulary

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



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



x-coordinate: the first number in the ordered pair corresponds to the horizontal position

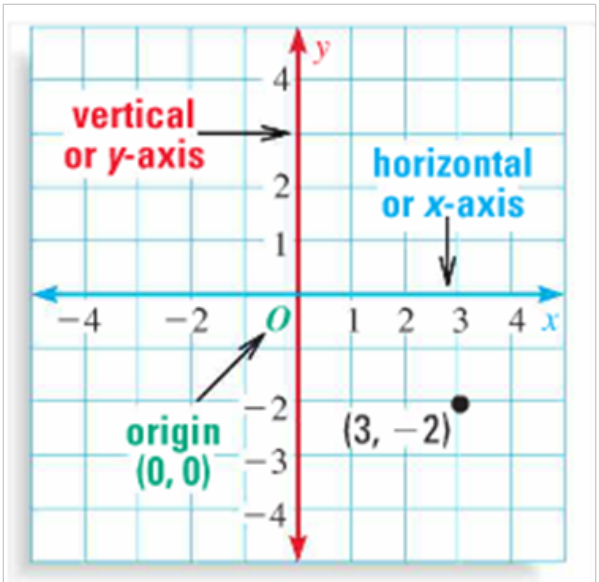
y-coordinate: the second number in the ordered pair corresponds to the vertical position

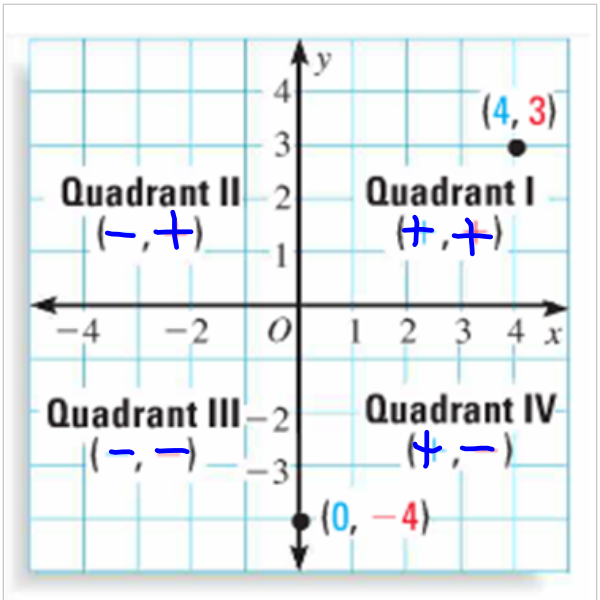
Graph:

the point in the plane that corresponds to an ordered pair (x, y) is called the graph of (x, y)

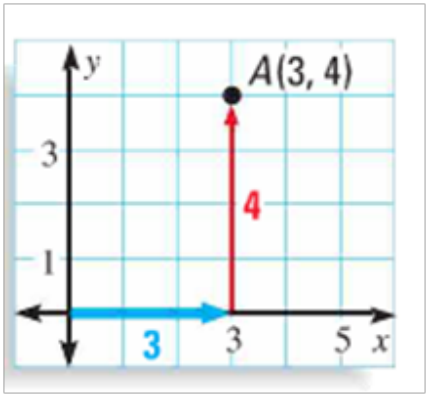
Scatter plot:

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





To plot the point (3, 4) start at the origin.
Move 3 units to the right and 4 units up.

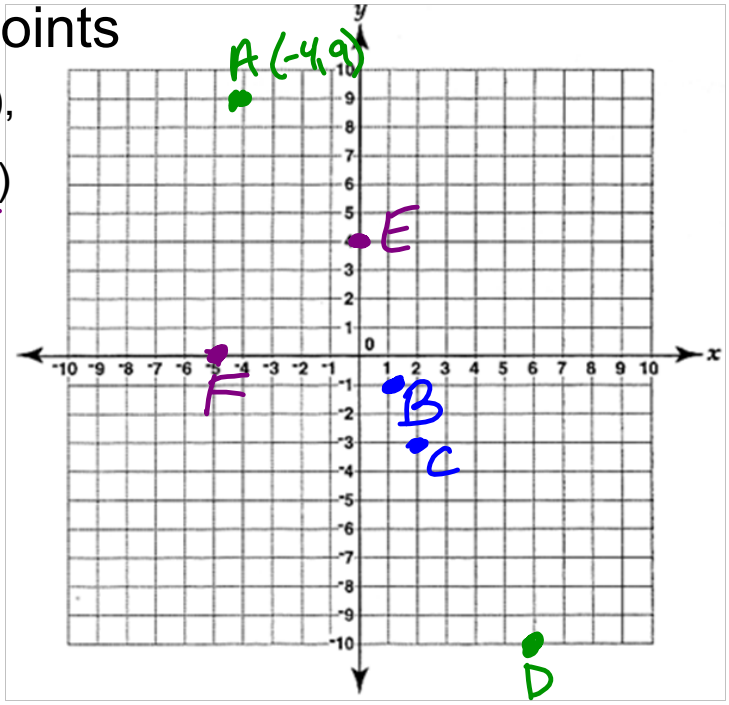


Example 1: Plotting Points

Plot and label the points

A(-4, 9), B(1, -1), C(2, -3),

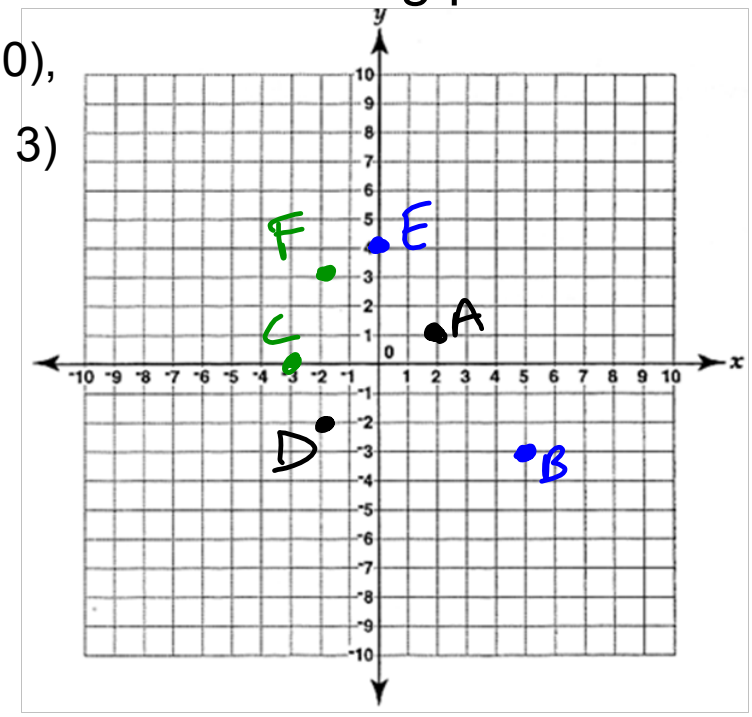
D(6, -10), E(0, 4), F(-5, 0)



Try It Plot and label the following points

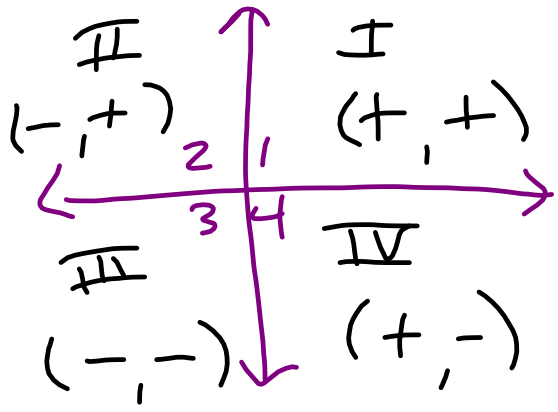
A(2, 1), B(5, -3), C(-3, 0),

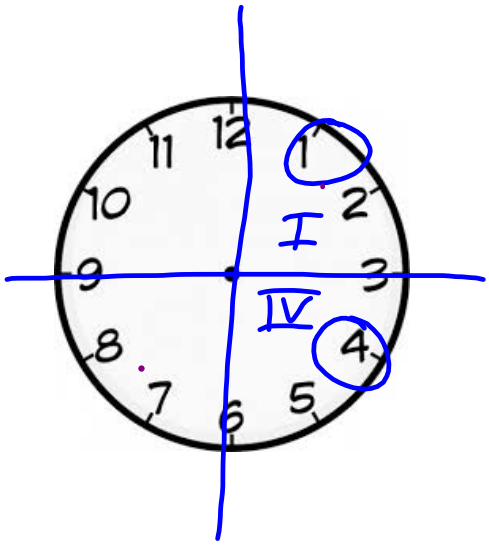
D(-2, -2), E(0, 4), F(-2, 3)



Example 2: Identifying Quadrants

Quadrants:





Name the quadrant the point is in.

a. (-1, 4) II

b. (4, -2) IV

c. (3, 7) I

d. (-3, -1) III

I - 1
II - 2
III - 3
IV - 4

II | I
III | IV

(-, +) | (+, +)
(-, -) | (+, -)

Example 3: Using a Scatter Plot

The amount (in millions of dollars) spent in the United States on snowmobiles is shown in the table. Make a scatter plot and explain what it indicates.

	0	1	2	3	4	5	6
Year	1990	1991	1992	1993	1994	1995	1996
Spending	322	362	391	515	715	924	970

What are the units on the horizontal axis?

Years

What are the units on the vertical axis?

Amt spent (in millions of dollars)

Explain what the data indicates.

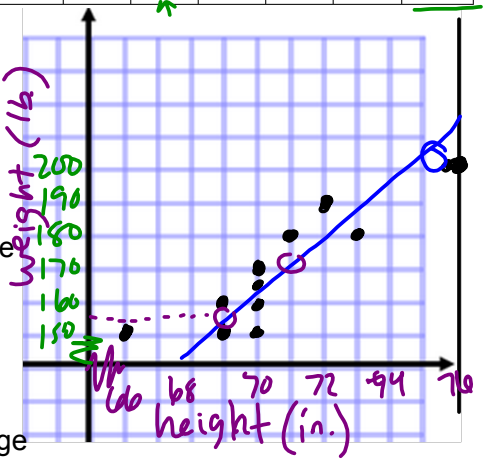
As yrs increase, Amt of money spent increases

Example 4: Making a Scatter Plot

You are the student manager of your high school soccer team. You are working on the team's program and have recorded the height and weight of the eleven starting players in the given table.

x	Height(in.)	72	70	71	70	69	70	69	73	66	70	76
y	Weight(lb.)	190	170	180	175	160	160	150	180	150	150	200

a) Make a scatter plot of the data. Put height h on the horizontal axis and weight w on the vertical axis.



b) Use the scatter plot to estimate the weight of a player who is 69 inches tall and one who is 71 inches tall.

69 in ≈ 155 lbs
71 in ≈ 170 lbs

c) In general, how does weight change as height changes?

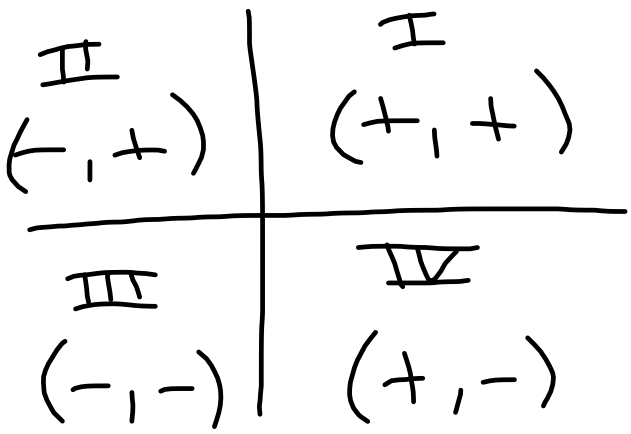
As weight increases, height increases

d) What would you expect a player who is 74 inches tall to weigh?

≈ 200 lbs

Summary

EQ: Draw a coordinate plane and label all four quadrants. Label a point in each.



4.1 Homework

p.206 #10-31, 42-52

(#13-18 use graph paper)