

Chapter 13 Review

Do you know the definitions of ...

Origin?	
Axis?	
Coordinate Plane?	
Quadrants?	
A linear equation?	
Parallel lines (both geometric and algebraic)?	
Perpendicular lines (both geometric and algebraic)?	
A vector?	

Do you know ...

How to properly label a coordinate plane?	
How to properly label a point on a coordinate plane?	
How to properly express a point?	
How to properly express a vector?	
The difference between a point and a vector?	
How to PROVE the distance formula?	

Do you know the formulas for ...

Distance between points?	
Midpoint between points?	
Slope of a line?	

Do you know ...

The standard form of an equation of a circle?	
The standard form of a linear equation?	
The slope-intercept form of a linear equation?	
The point-slope form of a linear equation?	
The meaning of the slope of a line?	
The differences between algebraic and geometric definitions?	
The meaning of a solution graph?	

Do you know ...

How to graph a line?	
How to graph a vector?	
How to add vectors?	
How to subtract vectors?	
The meaning of adding vectors?	
How to calculate the slope and the magnitude of a vector?	
How to find the x-intercepts of an equation?	
How to find the y-intercepts of an equation?	

Do you know ...

How to determine the equation of a line based on a slope and a y-intercept?	
How to determine the equation of a line based on a point and a slope?	
How to determine the equation of a line based on two points?	
How to find the equation of a line parallel to a given line?	
How to find the equation of a line perpendicular to a given line?	
How to solve a system of equations?	

Converting to 'Standard Form'

$$3y - 6x + \frac{4}{5} = y - 2x - \frac{3}{5}$$

- Combine X's, Y's, and constants.

$$2y - 4x + \frac{7}{5} = 0$$

- Make X component positive.

$$2y + \frac{7}{5} = 4x$$

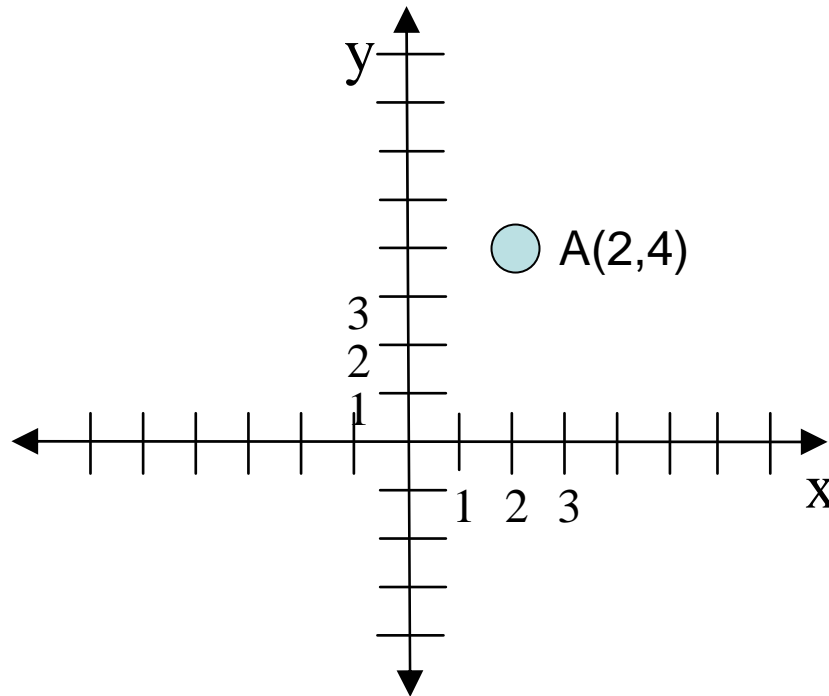
- Put Y with X and constant on other side of equal sign.

$$4x - 2y = \frac{7}{5} \qquad 20x - 10y = 7$$

- Get rid of fractions.

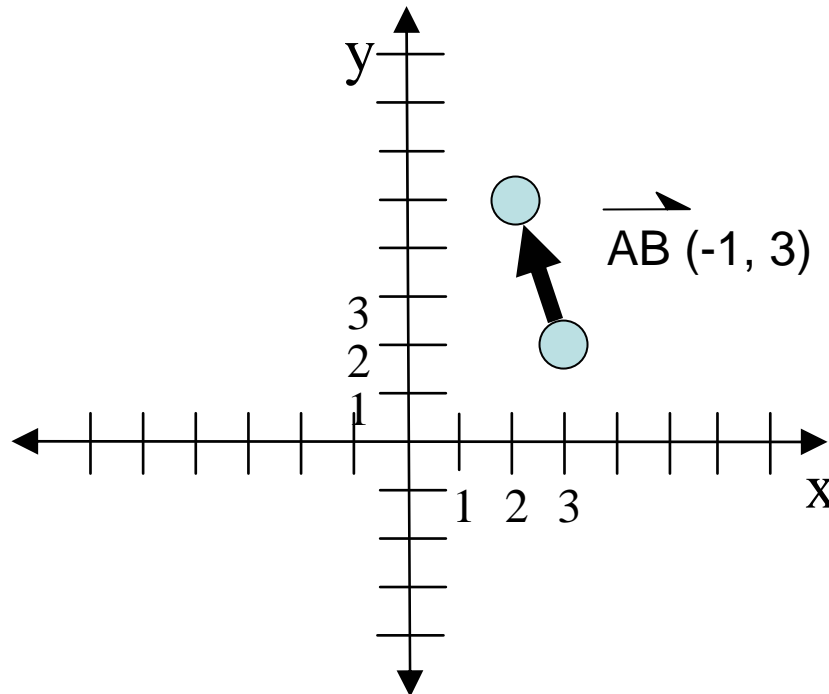
Vectors versus Points

- If A is a point such that $A(2, 4)$, this indicates that you are to place a **SINGLE** point on a graph at location $x = 2, y = 4$.



Vectors versus Points

- If \vec{AB} is a vector such that $\vec{AB} = (-1, 3)$, this indicates a HORIZONTAL move of 1 in the negative X direction and a move of 3 in the positive Y direction.
- NOTE! The vector does NOT indicate a starting point!



Problems

- Plot the point $(4, 2)$. Make sure to label your graph correctly.
- Plot the vector $\overrightarrow{CD}(2, -1)$ where $C(-1, 2)$.
- Plot the vector \overrightarrow{EG} where $\overrightarrow{EF}(2, 4)$ and $\overrightarrow{FG}(1, -3)$.
- Find the magnitude of \overrightarrow{EG} .