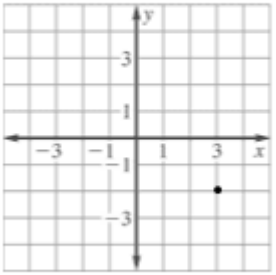
Chapter 4: Solving Linear Equations

Study Guide (P1)

4.1: Plot Points in the Coordinate Plane

- Identify/graph ordered pairs
- Identify the 4 quadrants

Ex: Write the coordinates of point graphed and identify the quadrant it lies in.

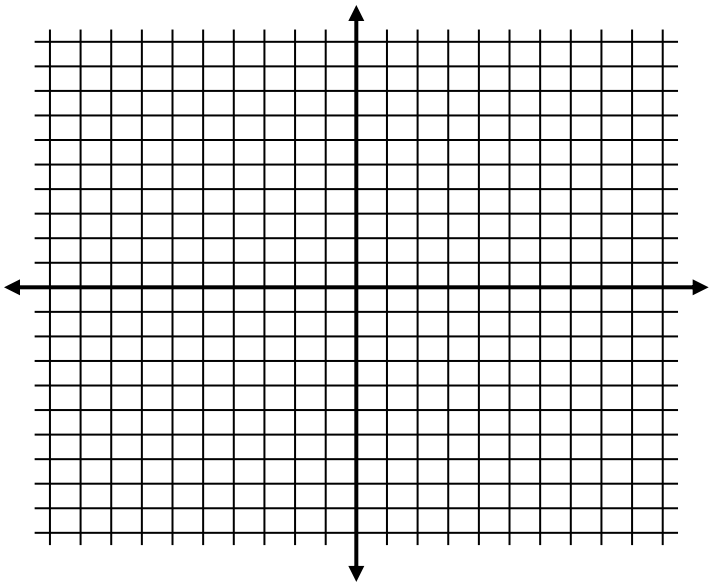


4.2: Graph Linear Equations

- Be able to graph an equation using a table (choose appropriate values for x)

Ex: Graph $2x - 4y = 8$

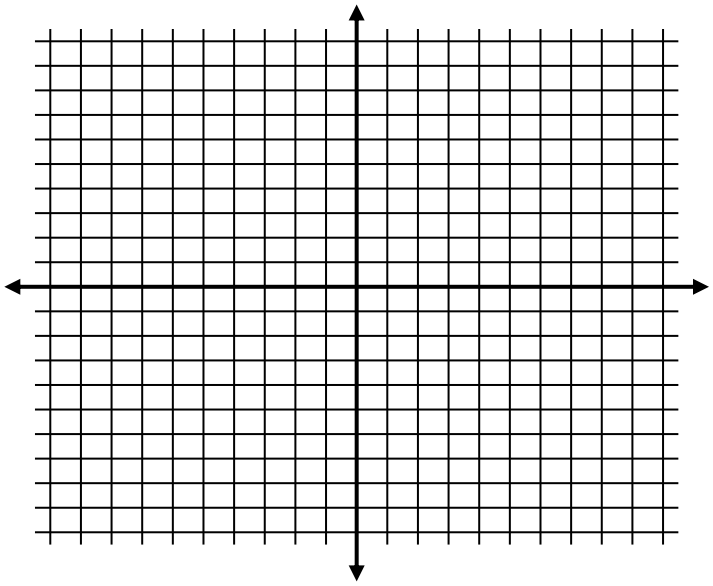
x	*y*



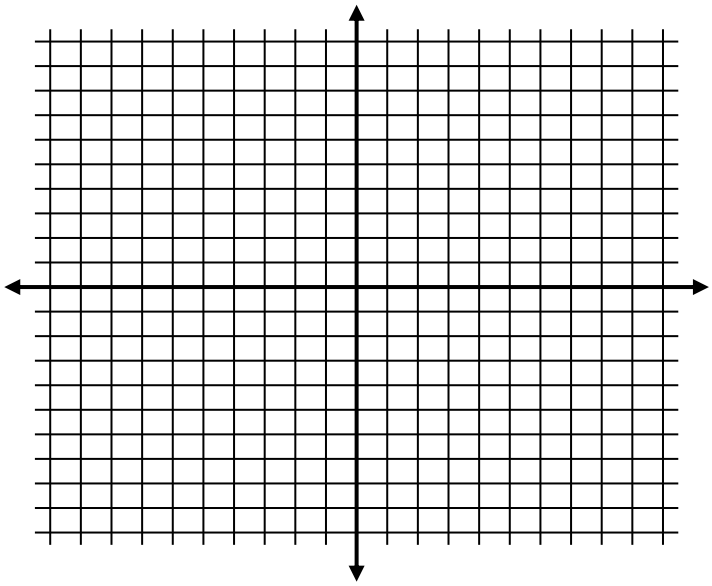
4.3: Graph Linear Functions Using *x* and *y* intercepts

- Find *x* and *y* intercepts from an equation
- Identify *x* and *y* intercepts from a graph
- Interpret the meaning of *x* and *y* intercepts as they apply to real-world problems

Ex: Find the *x* and *y* intercepts of the equation and graph: $2y - 3x = 6$

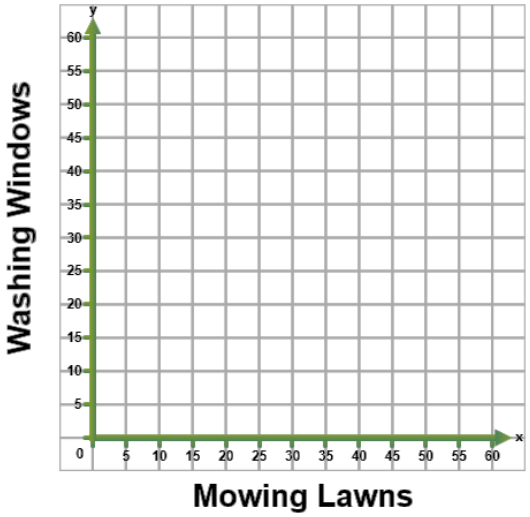


Ex: Graph $4x - 2y = -16$ using intercepts.



Ex: Your earn $16 an hour mowing lawns and $10 an hour washing windows. You want to make $500 in one week.

a) Write an equation to represent the situation
b) Graph the equation using *x* and *y* intercepts.
c) What do the intercepts mean in this situation?
d) What are three possible numbers of hours you can work at each job?
e) If you work 30 hours washing windows, how many hours do you have to work mowing lawns?



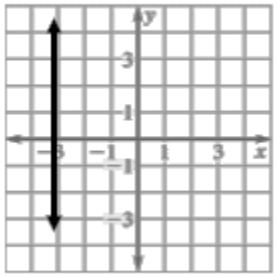
4.4: Slope and Rate of Change

- Find slope of a line that passes through two points
- Find slope of a line that is graphed
- Identify zero slope and undefined slope

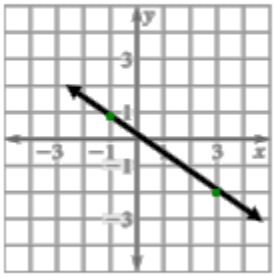
Ex: Find the slope of the line that passes through the points (6, –4), (–5 , –8)

Ex: Find the slope of the line that passes through the points (–5, 5) (2, 5)

Ex: Find the slope of the line



Ex: Find the slope of the line



4.5: Graphing Lines Using Slope-Intercept Form

- Identify slope and y-intercept of a line by looking at the equation
- Write equations in slope intercept form
- Use equations in slope-intercept form to graph a line

Ex: Identify the slope and *y*-intercept

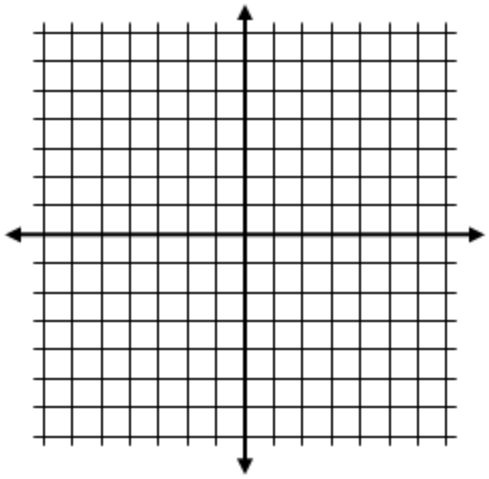
$$y = -\frac{3}{4}x - 1$$

Ex: Write the following equation in slope-intercept form then identify slope and *y* intercept:

$$4x - 9y = 18$$

Ex: Graph the following equation using slope-intercept form:

$$4x - 3y = -6$$



4.6: Direct Variation

- Decide if a function represents direct variation from an equation
- Decide if a function represents direct variation from a graph

Ex: Does the following represent direct variation? Yes or no? If no, explain why not, if yes, identify a.

$$2x + 4y = 8$$

Ex: Does the following graph represent direct variation? Why or why not?