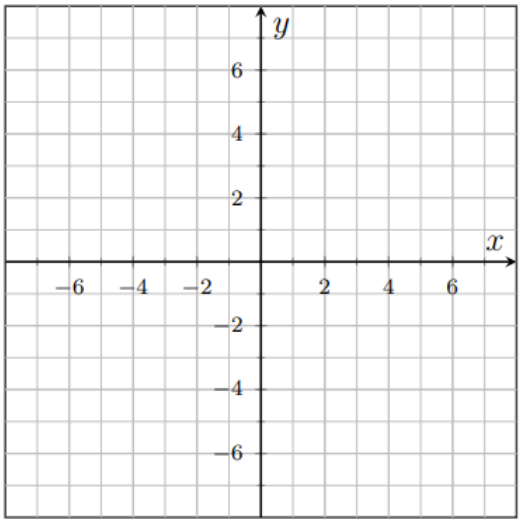
Math 60, Sections 4.8 and 4.10 Class Prep Name:_____

Watch the videos and take notes on this page Due at the Beginning of Next Class

Section 4.8 Horizontal, Vertical, Parallel and Perpendicular Lines

1. Graph and find the slope of the line between each pair of points. Then write the equation of each line.

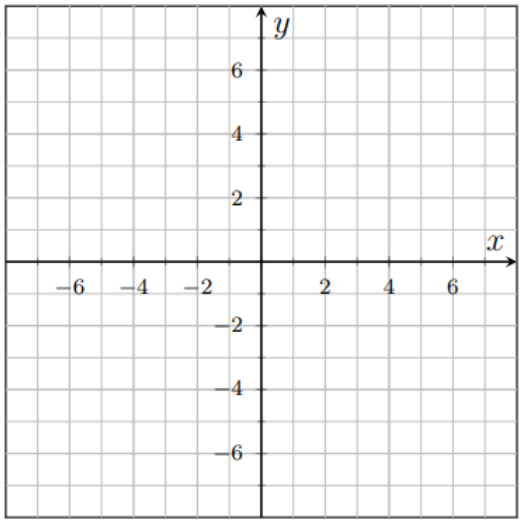
a. $(2,1)$ and $(2,7)$



Slope:

Equation:

b. $(6,-4)$ and $(1,-4)$



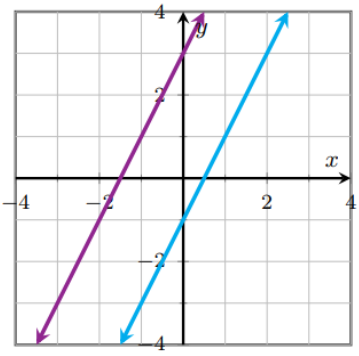
Slope:

Equation:

Parallel and Perpendicular Lines

2. Determine whether the lines are parallel, perpendicular or neither. Then write the slope of each line.

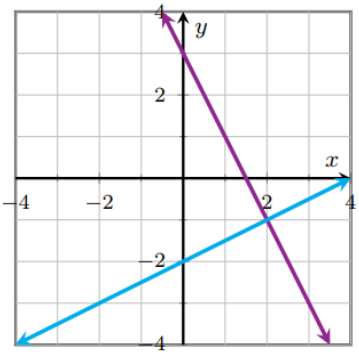
a.



Slope of line 1:

Slope of line 2:

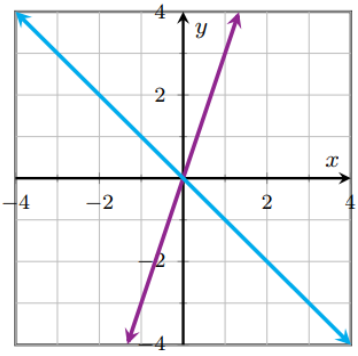
b.



Slope of line 1:

Slope of line 2:

c.



Slope of line 1:

Slope of line 2:

What do you notice about the slopes of parallel lines?

What do you notice about the slopes of perpendicular lines?

3. Determine whether each pair of lines is parallel, perpendicular or neither.

a. $y = -5x + 1$ and $y = \frac{1}{5}x - 4$

b. $x = 2$ and $y = 3$

<u>Writing the equation of a line given a parallel or perpendicular line</u>

4. Line k has the equation y=5x+7. Line l is parallel to line k and passes through the point (2,9). Find an equation for l in point-slope and slope-intercept form.

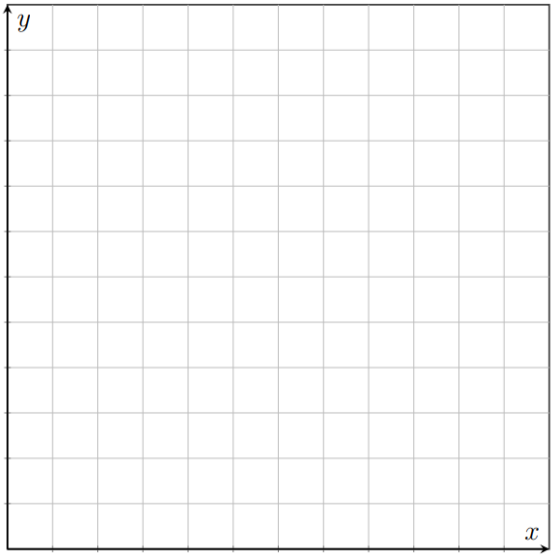
Section 4.10 Linear Inequalities in Two Variables

1. A couple is planning their wedding. They want the total cost of catering (x, in dollars) and renting the venue (y, in dollars) to be a maximum of $4,000, but they hope to spend less. Write an inequality to model this situation.

a. Find the x-intercept and y-intercept and graph the inequality. Label the axes and scale.

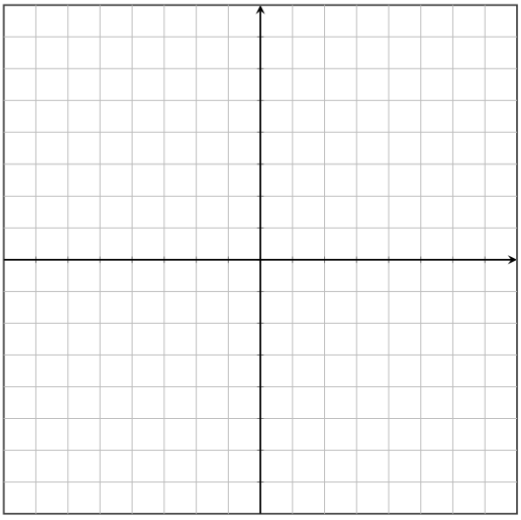
b. Shade all the points that would satisfy their requirement.

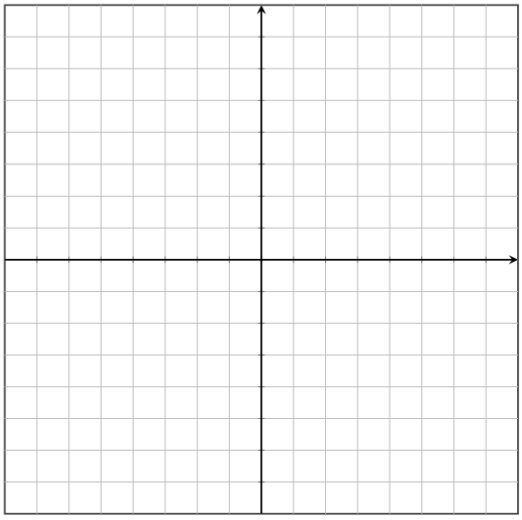
c. Solve the inequality for y to put it in slope-intercept form. What does the direction of the inequality tell you about which way to shade on the graph?



2. a. Graph the linear inequality $y > \frac{1}{2}x - 3$.

b. Graph the inequality $y \leq -2x + 5$





3. Summarize the types of lines and shading for each form of the inequality.

	Type of Line	Direction of Shading
$y > mx + b$		
$y \geq mx + b$		
$y < mx + b$		
$y \leq mx + b$		