

**MPM 1D Handout**  
**Graphing Linear Relations**

Date:

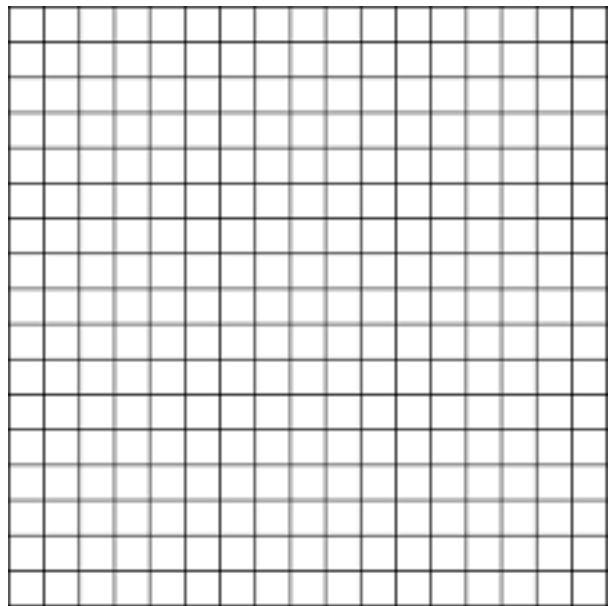
Name:

**Important Stuff to Remember:**

- We can graph a linear relation using a table of values (plugin values for x to get values for y, plot the points).
- We can graph using an equation in  $y = mx + b$  form (plot b, then count the rise and the run from b to get another point).
- We can graph a linear relation by finding its intercepts.
  - To get y-intercept, let  $x = 0$ .
  - To get x – intercept, let  $y = 0$ .
  - Plot both points and connect them.

1. Complete the table of values for the linear relation below. Use it to graph the line and write the equation.

x	y
-2	13
-1	
0	5
1	1
2	



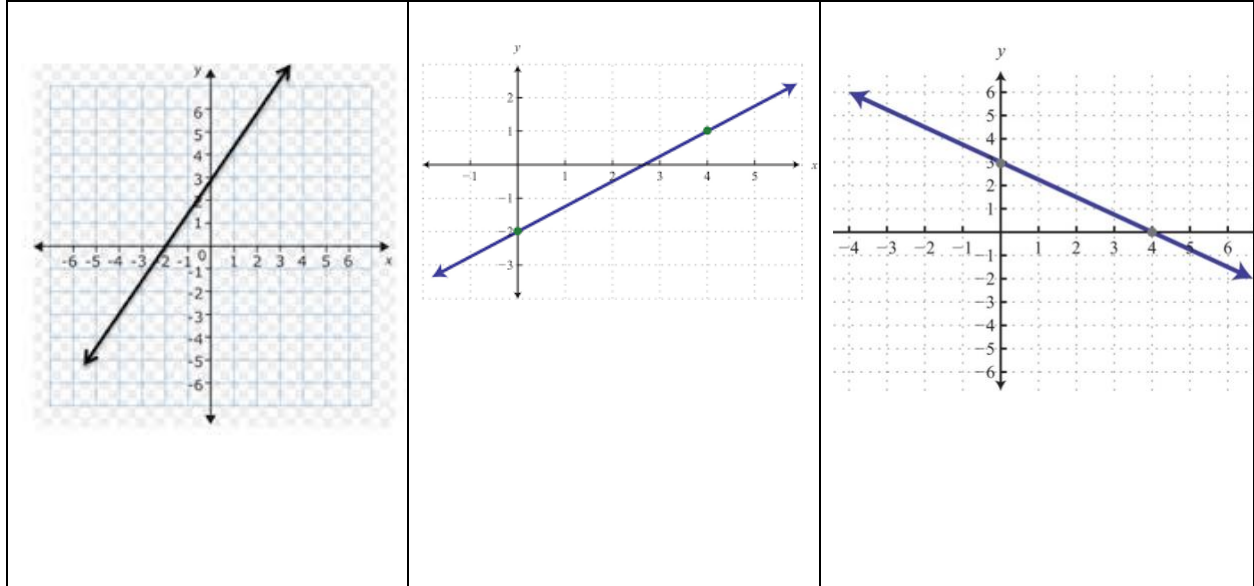
2. For each line given, state the slope and y-intercept and then graph the line (use the graph above).

a.  $y = -4x + 2$

b.  $y = \frac{1}{3}x + 2$

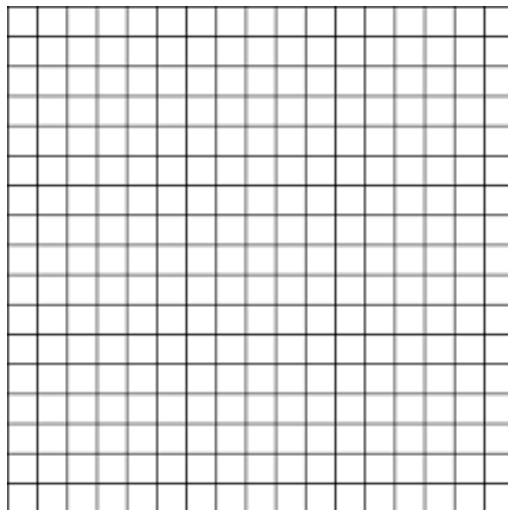
c.  $y = 2x - 3$

3. For each graph shown below, state the coordinates of the x and y intercepts, slope, and the equation of the line.



4. Find the x and y-intercepts for each of the following lines. Show your work and state the intercepts as ordered pairs.
- a.  $-3x + 6y = -9$       b.  $2x + y = -3$       c.  $4x + 3y = 12$

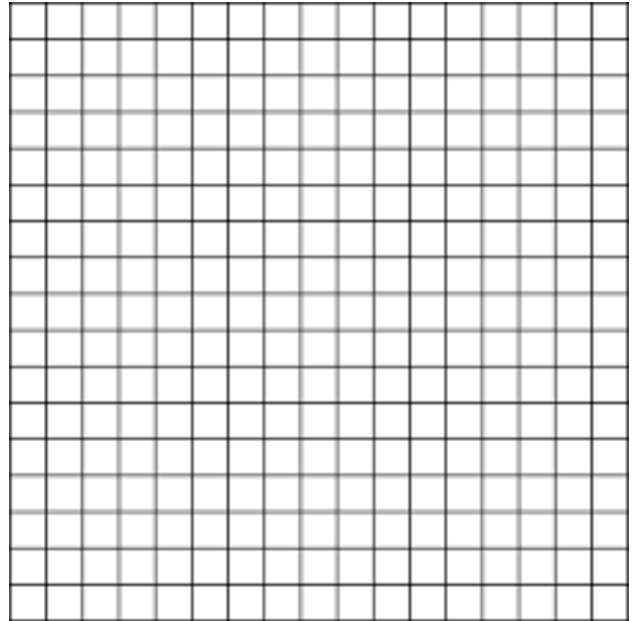
5. Use your intercepts from number 4 to graph each line and state its slope.



6. A line has an x – intercept at -3 and a y-intercept at -5. Use the slope formula to find the slope of the line. Write its equation.

7. Rearrange the following equations into slope y-intercept form and then graph the lines.

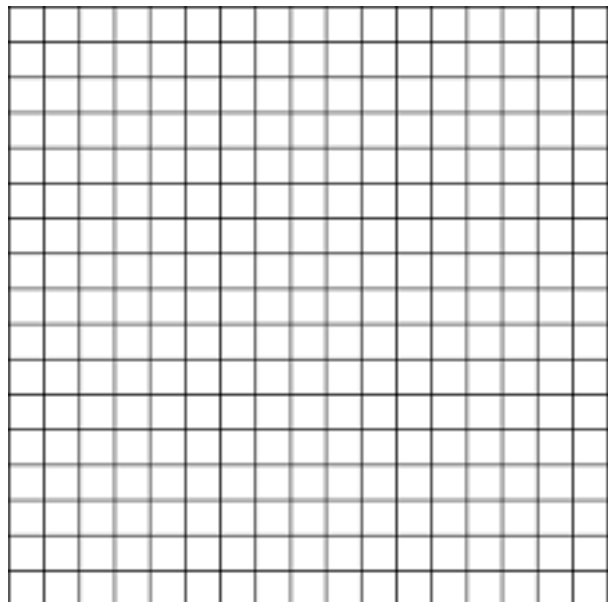
a.  $2x - 4y + 8 = 0$



b.  $3x - y + 2 = 0$

8. Graph the following pair of lines using a method of your choice. What do you notice about them? How could you use the equations to tell that this would happen?

$y = -2x + 5$   
 $2x + y = -4$



9. Graph the following pair of lines using a method of your choice. What do you notice? State the slope of each line.

$$y = 2x - 1$$

$$x + 2y + 4 = 0$$

