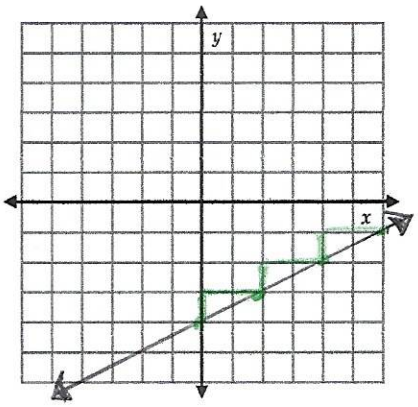
Math 1 – Spring 2020
Review #2

Graphing lines.

When graphing lines, the easiest method is to make sure the equation is in slope-intercept form, $y = mx + b$, and use the slope and y-intercept to plot points and draw the line. The slope (**m**) is the number in front of x and is how you **move** using rise over run. The y-intercept (**b**) is where you **begin**, on the y-axis.

To graph $y = \frac{1}{2}x - 4$. Think about where to begin and how to move. Since the y-intercept is -4, from the origin move down 4 and plot the point. The slope is ½, so from -4 you will move up 1 and right 2 several times to put a few more points on your graph and then draw the line with arrows at each end.



Things to remember:
A positive slope rises from left to right.
A negative slope falls from left to right.
A slope of 0 is a horizontal line.
A slope with a vertical line is undefined.

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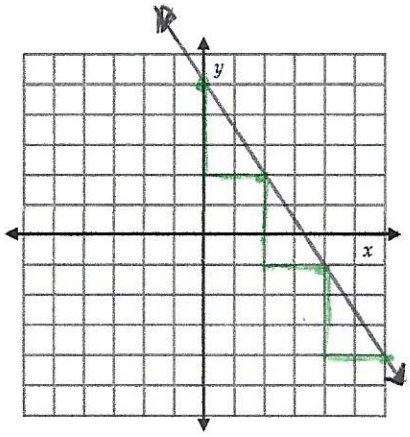
If an equation is not in slope-intercept form, solve for y and put it into slope intercept form.

Graph $2y + 3x = 10$. Put the equation into slope intercept form and identify the slope and y-intercept. Plot your points and draw the line.

$$2y + 3x = 10$$
$$-3x \quad -3x$$
$$\frac{2y}{2} = \frac{-3x + 10}{2}$$
$$y = -\frac{3}{2}x + 5$$



Identify the slope and y intercept and graph.
$m = -\frac{3}{2}$
$b = 5$

Begin at 5 and then move down 3 and right 2 to plot a few more points and draw the line.

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Review #2 Graphing lines.

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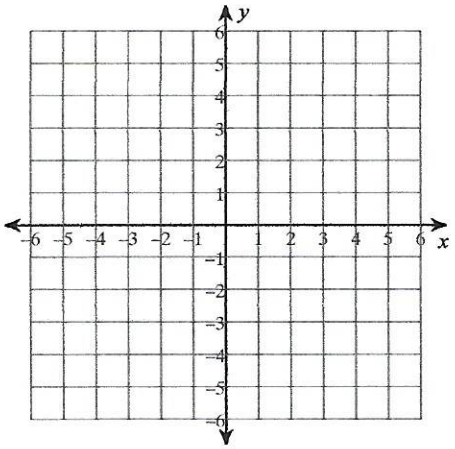
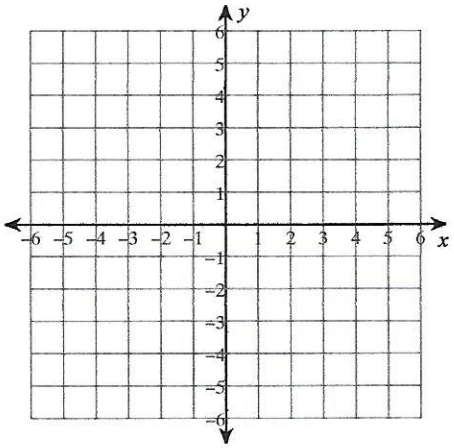
Use the slope and y-intercept to sketch the graph of each line.

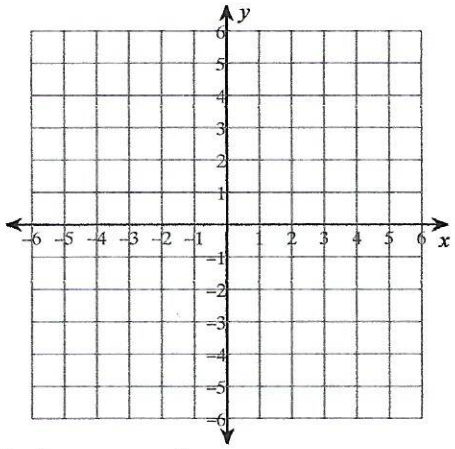
1) $y = \frac{5}{3}x - 5$



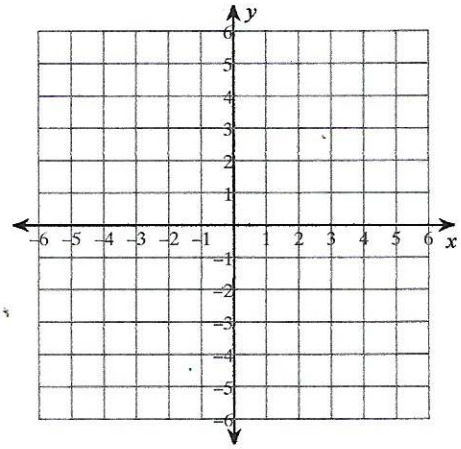
2) $y = -\frac{1}{3}x - 1$



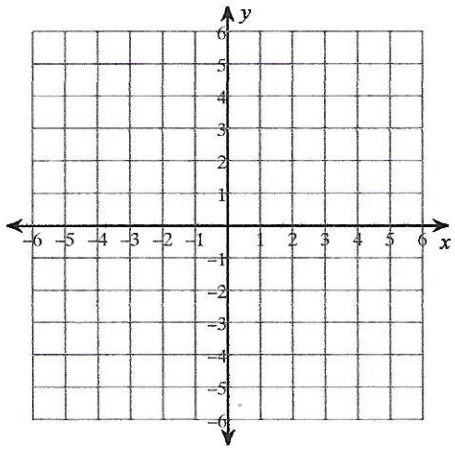
3) $y = -\frac{1}{4}x + 3$



4) $y = x - 4$



5) $3x - y = -2$



6) $x + 5y = 15$