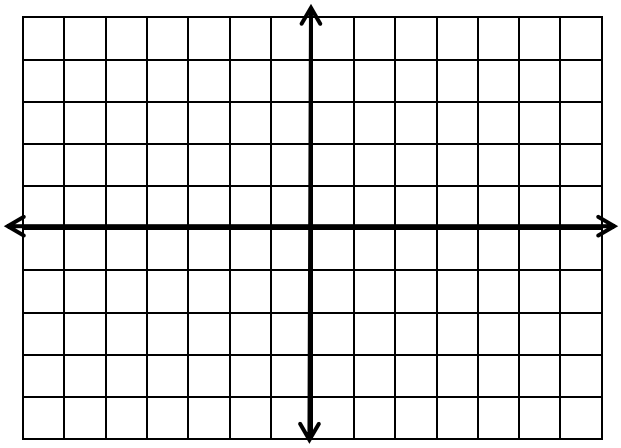
Essential Question: How can we graph linear relationships using x and y-intercepts?

Do Now: Complete the table for the following function and graph the relationship.

$3x + 4y = 12$

x	-4	0	4
y			



Identify the points where the graph intersects the x and y-axes.

x-intercept:_____

y-intercept:_____

Graphing Linear Functions Using Intercepts

Think about this…
How many points are needed to graph a line?
How can we use x and y-intercepts to graph a linear function?

The **y-intercept** is the y-coordinate of the point where the graph intersects the y-axis. (0,Y) **To find the y-intercept, let x = 0 and solve for y.**

The **x-intercept** is the x-coordinate of the point where the graph intersects the x-axis. (X,0) **To find the x-intercept, let y = 0 and solve for x.**

Finding the x-intercept

Finding the y-intercept

Making Quick Graphs Using X and Y intercepts

1. $y = x + 2$

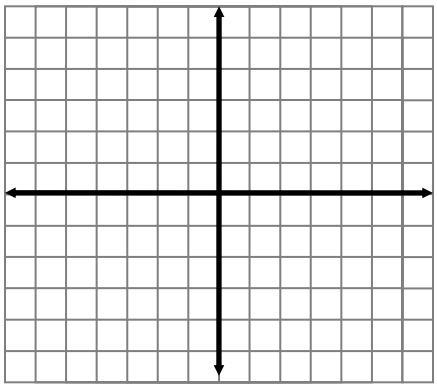
   x intercept = _____

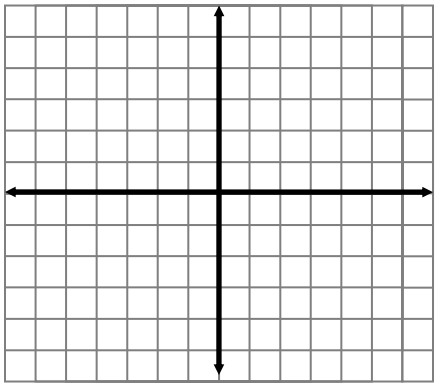
   y intercept = _____

2. $4x + 5y = 20$

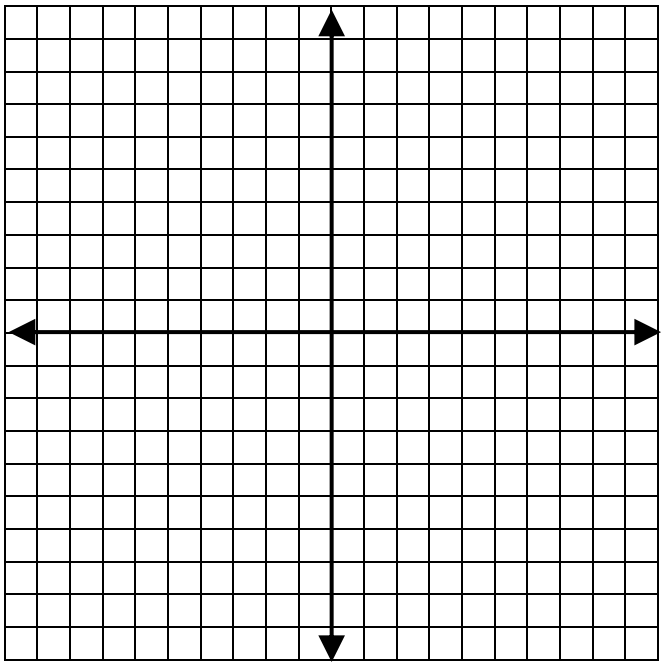
   x intercept = _____

   y intercept = _____





3. $\frac{2}{3}y = 4 - \frac{1}{2}x$



The TAKE AWAY

We can make quick graphs of linear functions by finding the

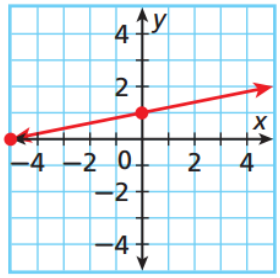
_____.

8 Algebra CC **HW #**

1. The ordered pair for an x-intercept is (X, __) and the ordered pair for a y-intercept is (__, Y).

For #'s 2 – 4, identify the y-intercept and x-intercept of each graph.

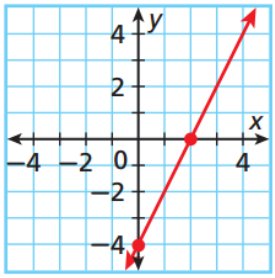
2.



x-int:_____

y-int:_____

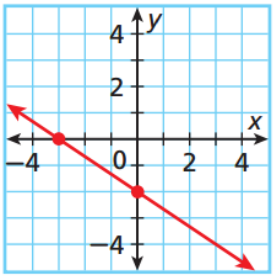
3.



x-int:_____

y-int:_____

4.



x-int:_____

y-int:_____

Find the x and y-intercepts of each function and graph the corresponding line.

5. -4x + 8y = -16

6. -2x – 4y = 20