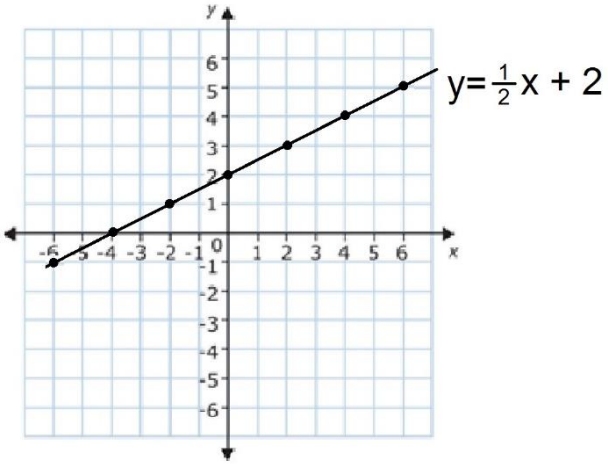
Points on a Line…

Here is a graph of the line $y = \frac{1}{2}x + 2$.



1. How can you tell that the graph is drawn correctly?

2. Identify any two points that are ON the line. Write them the proper way (x,y).

3. Identify any two points (x,y) that are NOT ON the line. You can pick any two points, as long as the line does not pass through them.

4. Use the points you identified in question 2 and the equation $y = \frac{1}{2}x + 2$. For each point, substitute the x-value and y-value of the point into the equation. For example, if you identified the point (6, 5), you would replace the x in the equation with 6, and the y in the equation with 5. Compare the two sides of the equation.

5. Now do the same thing with the points you identified in question 3 (ie. points not on the line). What happens in the equation this time?

6. What conclusion can you draw from this activity? How can we use the equation of a line to tell whether a particular point is on a line?

7. Determine if the following points are on the line $y = 3x - 7$
   a) (42, 119) b) (21, 52)