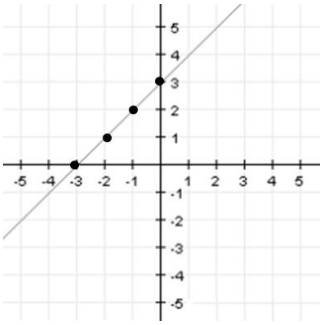
Name_____

Equations from Line Graphs

There are a few ways to determine the equation of a line when given the graph. With the knowledge we currently have, the easiest way would be to determine a few known points on the line, make a t-chart of those points, and then determine the equation from the t-chart.

Example:



The graph to the right has 4 points labeled: (-3,0), (-2,1), (-1,2), and (0,3). Step 1 is to take a few known points and make a t-chart out of it.

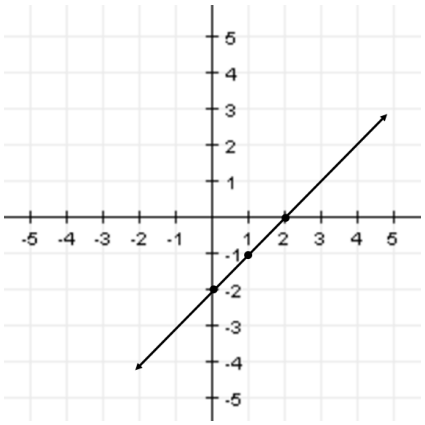
x	y
-3	0
-2	1
-1	2
0	3

Once we've made the t-chart, it's time to analyze the points and figure out the pattern. An equation has to be set up as y=something, so ask yourself, what do you have to do to the x-coordinates to make it the y-coordinate? Can you add? Subtract? Multiply? Divide? Look at the first coordinate. What can you do to -3 to make it 0? You could multiply by 0. Does that work for the other coordinates though? No. You can add 3. -3+3=0. Does that work for the others? Yes. -2+3=1, -1+3=2, and 0+3=3. Take that rule of add 3 and turn it into the equation. The equation for this graph would be:

y=x+3

Look at each graph below. Fill in the t-chart with three different points from the graph. Use those points to determine the rule then write the equation for the line.

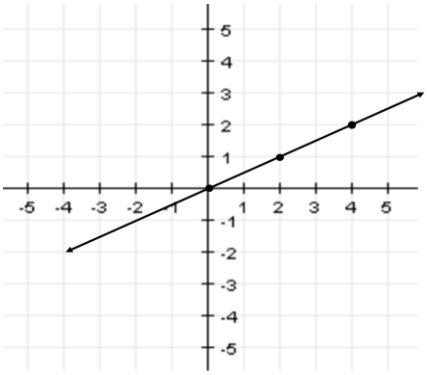
1.



x	y

Equation_____

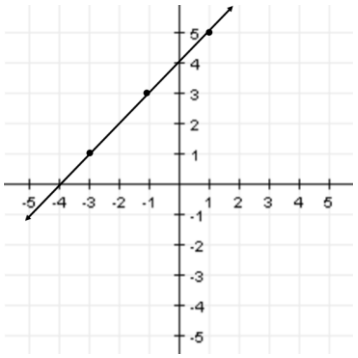
2.



x	y

Equation_____

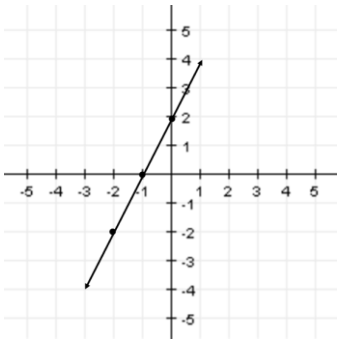
3.



x	y

Equation_____

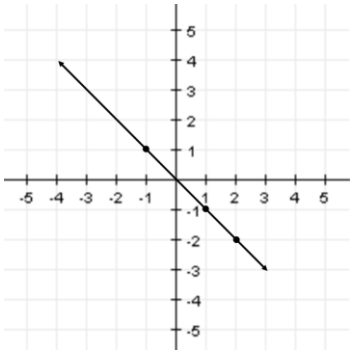
4.



x	y

Equation_____

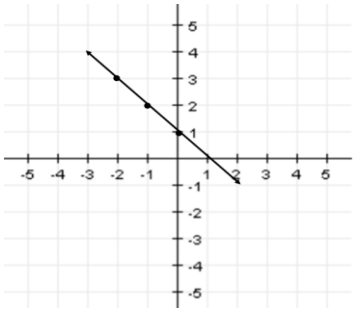
5.



x	y

Equation_____

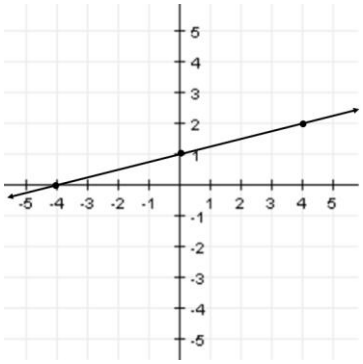
6.



x	y

Equation_____

7.



x	y

Equation_____