The graph of a linear equation - Horizontal and Vertical lines 12.7.16

Warm up: Work on exercises 1, 2, and 3 on Mod 8.4 lesson 14

We are looking at special cases today. There are two types of lines we will be looking at, vertical lines and horizontal lines.
Remember the equation ax+by=c
Let us look at a case where a=1 and b=0. Let us investigate where c=5.
What did the equation look like?
$$1 \cdot x + 0 \cdot y = 5$$
Plug in the following and solve for the other variable
x=3 and x=7 solve for y
y=7 and y=3 Solve for x

What pattern do we see with the x's? What pattern do we see with the x's?
Try -3 for y.
Try ½ for y.

Theorem: The graph of x=c is the vertical line passing through (c,0), where c is a constant.
Exercises 4-9
Let us try a new equation ax+by=c with a=0 and b=1 and c is a constant. c= 2.
So we can create the equation:
$$0 \cdot x + 1 \cdot y = 2$$
If we pick 7 for y and solve for x.
If we pick 5 for x and solve for y.
If we pick -5 for x and solve for y.
If we pick ½ for x and solve for y.
Write all these as coordinates (x,y).
Do you similar pattern as before? What do you think this line will look like?

homework:10-12