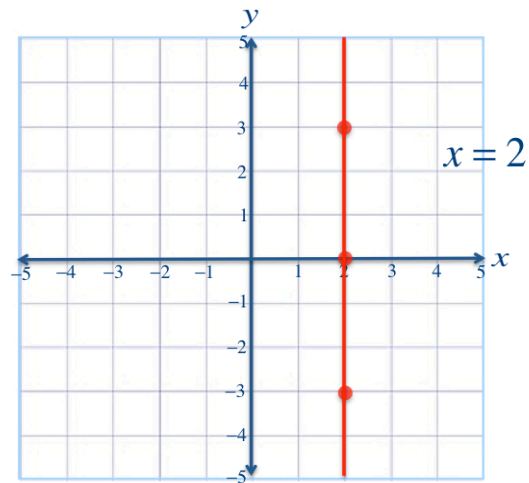


Linear Relations - Horizontal Lines



In the previous tutorial, we explored and graphed equations that described vertical lines.

How would I explain and demonstrate why the equation $x=2$ describes the vertical line shown below?

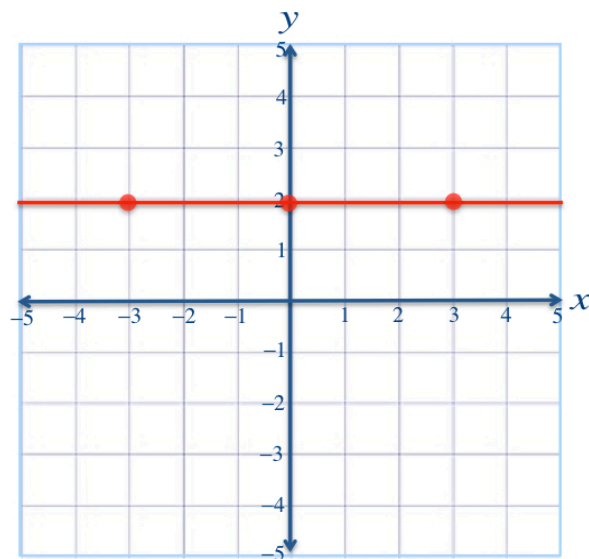


Students will sometimes mistakenly think the equation $x=2$ describes a horizontal line.

- Why might they make this mistake?
- How could I help them correct their thinking?

Let's consider the horizontal line the student mistakenly thought represented the equation $x=2$.

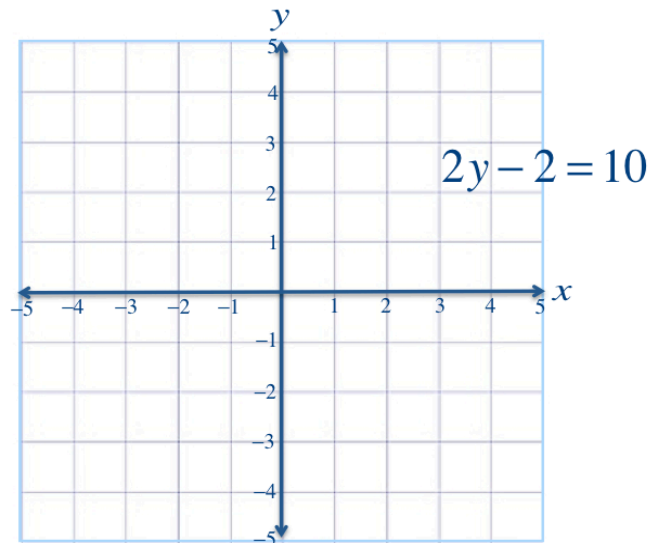
- How would I describe this line in relation to the x -axis and y -axis that make up the coordinate grid?
- What observations could I make about this line using the *coordinates* of each point shown on the line?



If the previous equation $x=2$ described a vertical line...
What equation could I write to describe the horizontal line shown above?

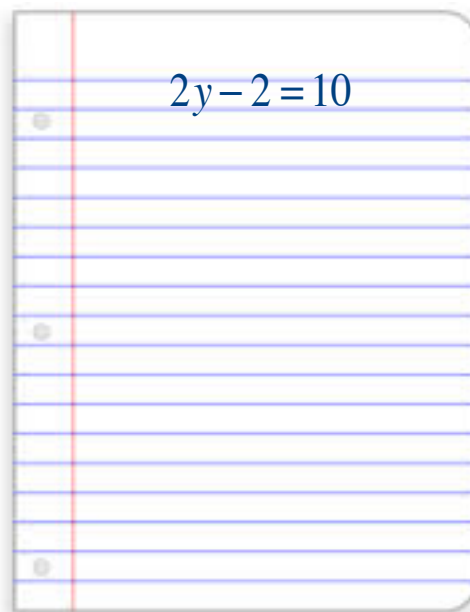
Let's consider a new equation...

- How would I describe this new equation as being similar to the previous equation?
- How would I describe my new equation as being different to the previous equation?
- Would I anticipate my new equation describing a vertical line or horizontal line? How would I explain my reasoning?



My first step in preparing to graph my new equation will be to isolate the variable and determine the value.

- How would I explain and demonstrate isolating and determining the value of the variable in this equation?



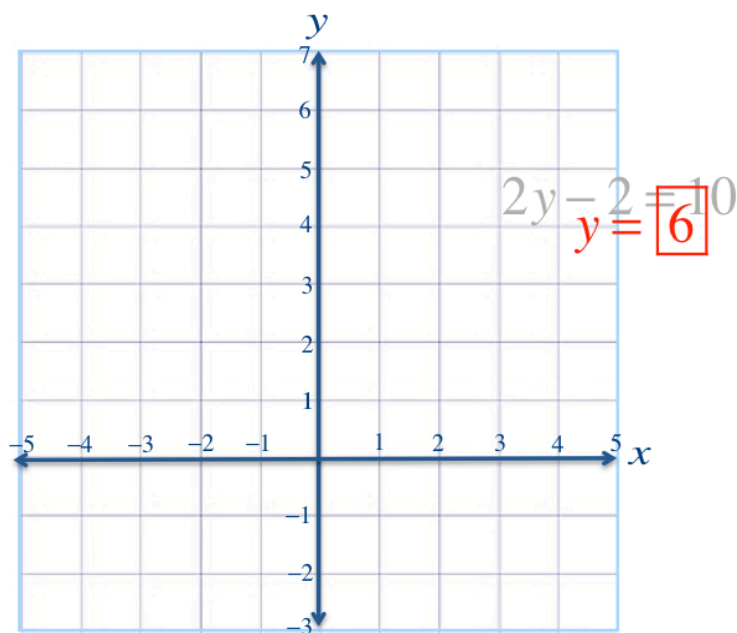
My next step in preparing to graph my equation will be to construct a table of values.

$$2y - 2 = 10$$
$$y = \boxed{6}$$

- How would I describe the values I'll record in this table?
- How would I explain and demonstrate constructing my table of values?

x	y

How would I use the values in my table to show/verify that my equation describes a horizontal line?



Linear Relations-Horizontal Lines-Skills Checklist



- ✓ I can explain and demonstrate why the equation $x=2$ describes a vertical line
- ✓ I can explain and demonstrate why the equation $y=2$ describes a horizontal line
- ✓ I can explain compare similarities and differences between the equations...

$$y=2 \text{ and } 2y-2=10$$

- ✓ I can explain and demonstrate how I solve for the variable in the equation $2y-2=10$
- ✓ I can explain and demonstrate constructing a table of values for the equation $y=6$
- ✓ I can explain and verify why the equation $2y-2=10$ describes a horizontal line

Linear Relations-Horizontal Lines-Worksheet



The Get It Guide™