Instructions for Creating a DynaGraph in GeoGebra

Open a new GeoGebra file with both an Algebra and Graphics view. To construct a DynaGraph you will need to first hide the *y*-axis.
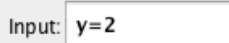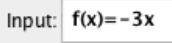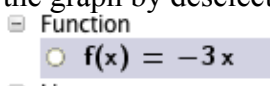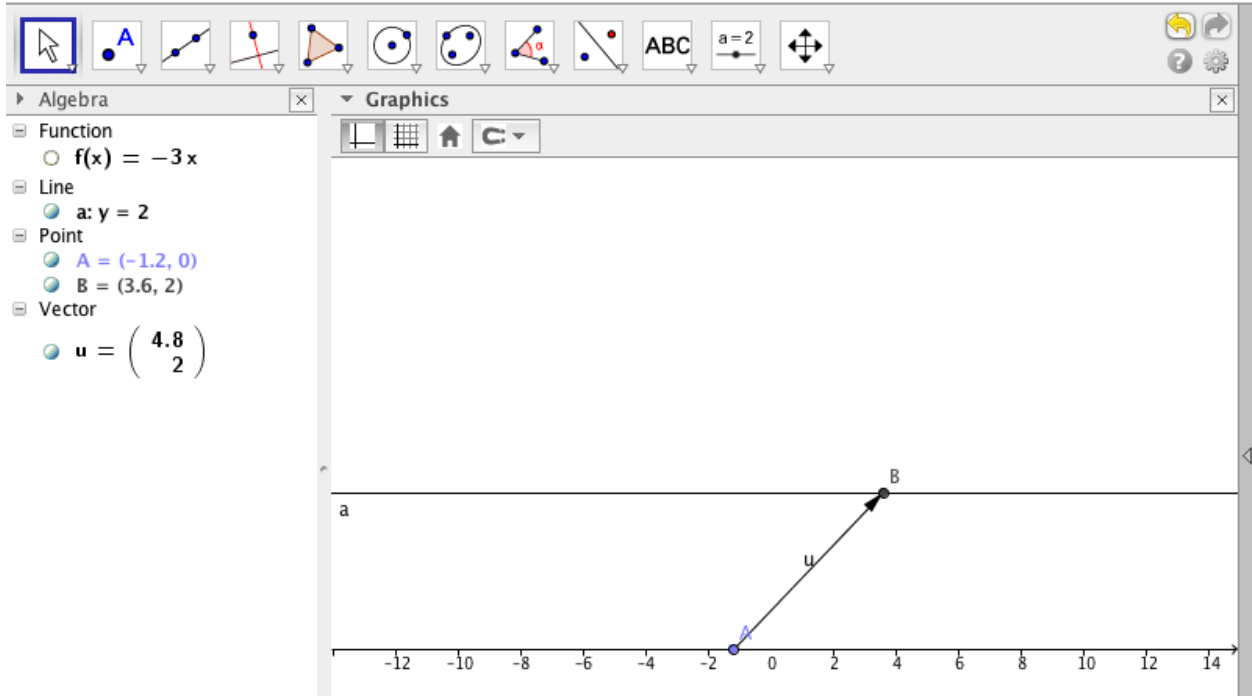
To hide an axis in GeoGebra:
1. Place your cursor somewhere in the graphics window and right click.
2. In the pop up menu select "Graphics" at the bottom. This opens the Graphics settings.
3. Select *y*-axis tab, and then un-check the show *y*-axis box. Close the Graphics settings window.

To construct a DynaGraph:
1. You should have a graphics window with only a horizontal number line (*x*-axis). If the number line is not centered you can select the "Move Graphics View" button and click and drag in the Graphics window to center it. (Note: Clicking on the number line will change the scale of the axis.)

2. Place a point on the number line using the new point tool and placing the point on the number line. This point is attached to the axis and can only slide horizontally. This will be your independent variable.

3. To get a second horizontal number line graph the line $y = 2$ by entering $y = 2$ in the input bar. Input: y=2 _____ (You can place your horizontal line anywhere. The line $y = 2$ was chosen because it is a "nice" distance from the *x*-axis.)

4. In the input bar, enter the function formula that you want represented by this DynaGraph. For this example, use "$f(x) = -3x$". Input: f(x)=-3x Notice the graph of the function appears in the graph window.

5. Since we do not want a Cartesian plane representation of the graph of this function, hide the graph by deselecting the circle next to the function formula in the algebra window.
   ⊟ Function
      ○ $f(x) = -3x$

6. Now we need to graph the point that is made up of the *x*-value associated with the function formula, $f(x)=-3x$, evaluated at the value on which the point A sits on the number line and *y*-value of 2 so that this new point (lets call it B) sits on our new number line. To do this, enter "B:(f(x(A)),2)" in the input bar. Input: B:(F(x(A)),2)

7. Our final step is to draw in the vector that connects point *A* and point *B*. To do this enter
    "vector[A,B]" in the input bar.   Input: **vector[A,B]**

8. Hide the Algebra window and Input Bar. Hide the labels for the vector and the line. You
    now have a DynaGraph!!