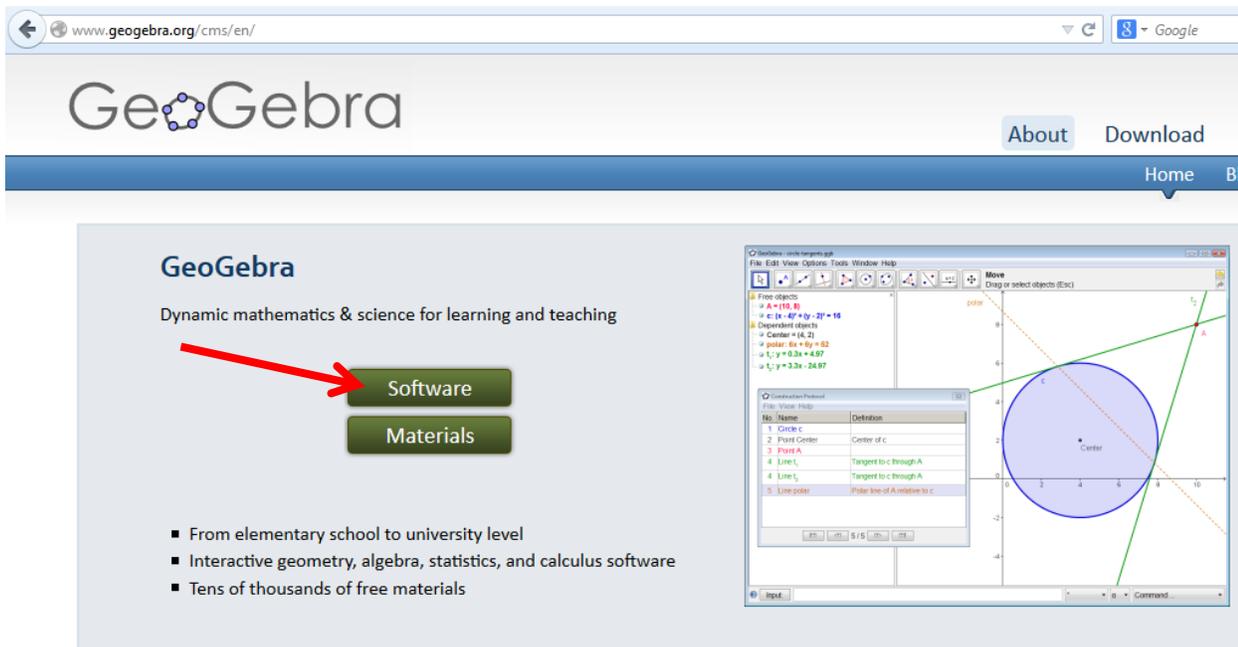# Geogebra Tutorial – Building a Number Line with Fractions Labeled

We can use Geogebra as a teacher productivity tool to construct number lines for use on teacher generated materials (for example, to write your own activities and assessments).

1. Download and install Geogebra.
2. Open Geogebra.
3. Change display settings.
4. Craft points and the number line segment.
5. Modify point labels and decorations.

Step 1. Download and install Geogebra.

Go to www.geogebra.org. Click on "Software."

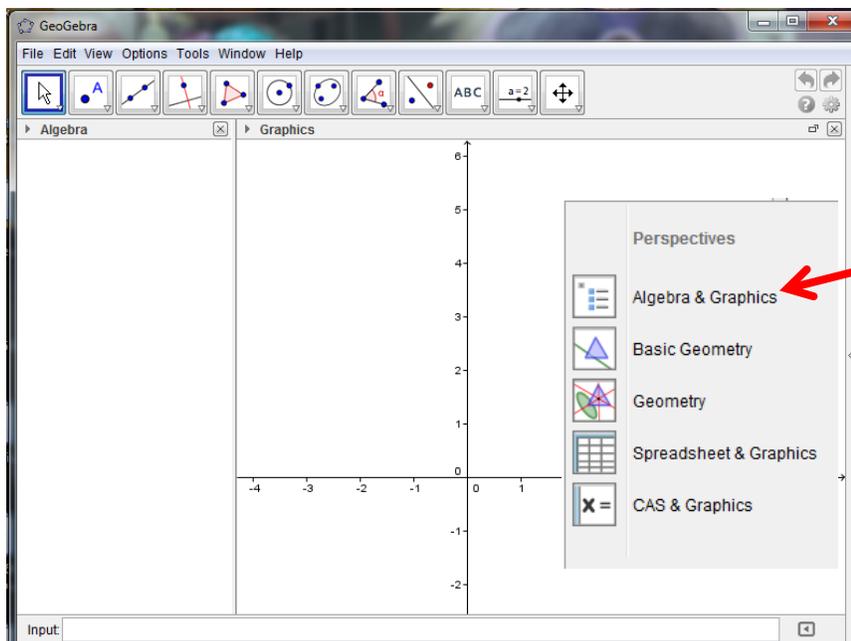You should see the phrase, "Install Geogebra." SCROLL DOWN.

Click on the platform that suits your needs

if PC, click on Windows
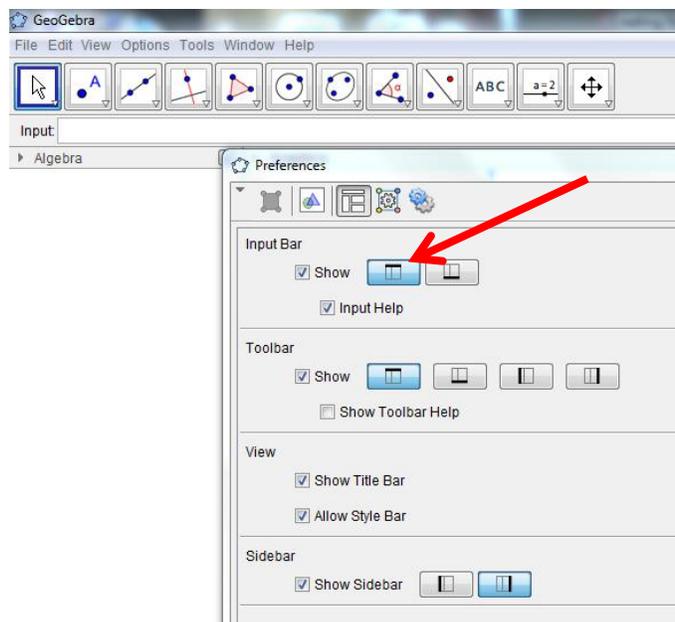
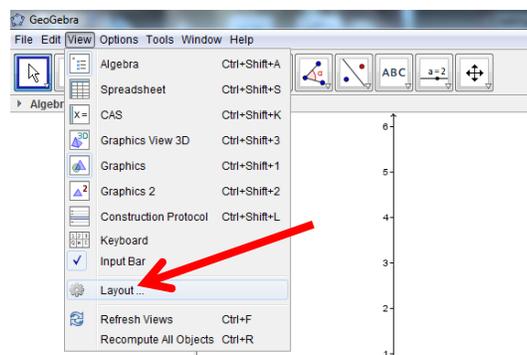if MAC, choose based on your OS (operating system)

Follow the steps & prompts to complete the installation.

The default window will open. Choose "Algebra & Graphics." You can always change the window later if need be.
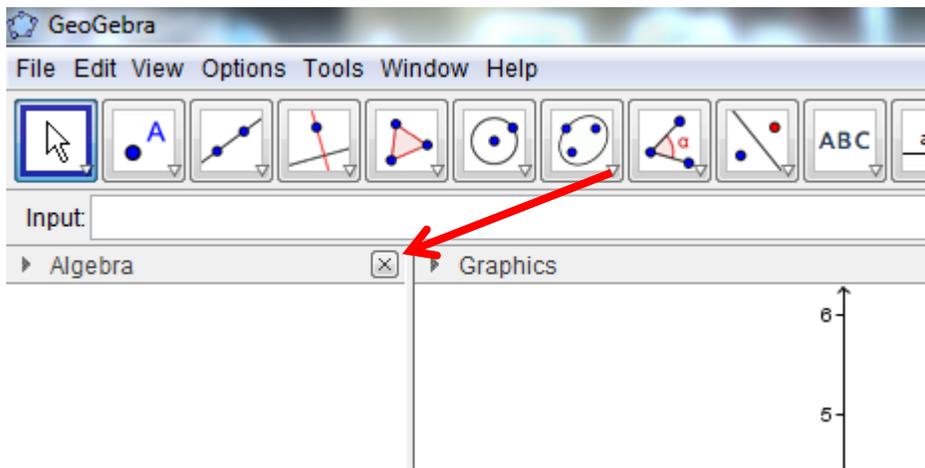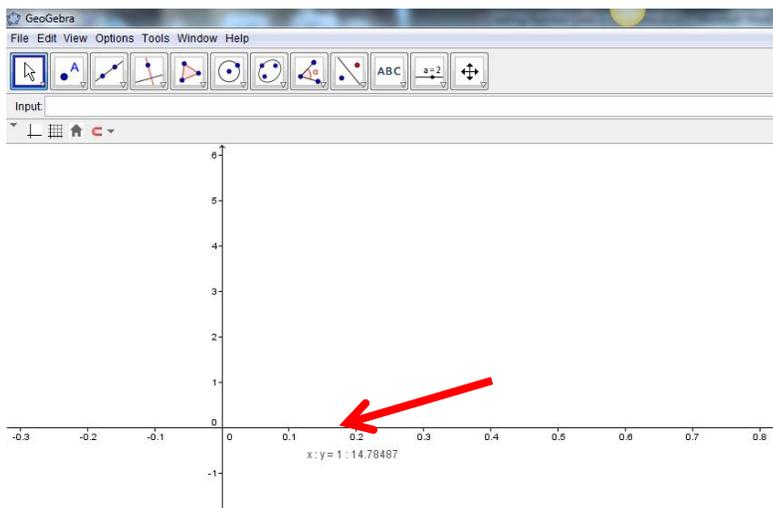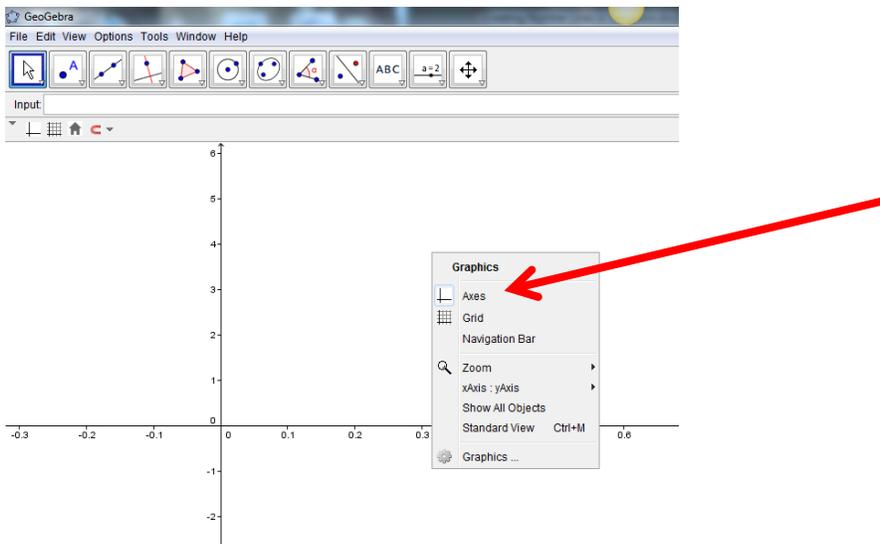
Move the input bar to the top.

Disable the algebra window by clicking on the small X in the top right corner of the Algebra window.

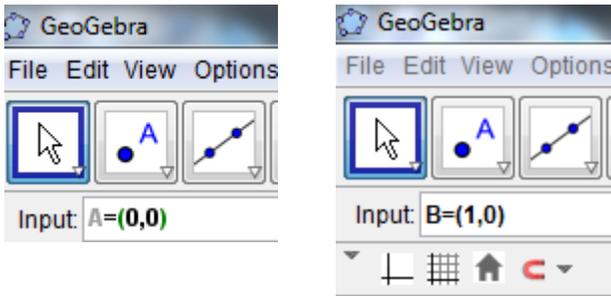To expand the x-axis, hold the **CTRL** key. Click on the axis and drag to adjust its increments.

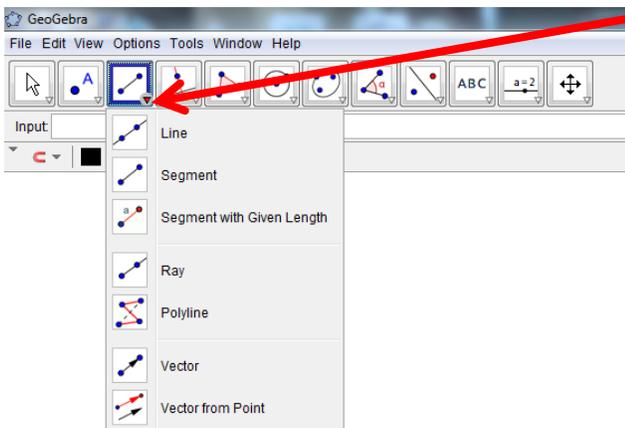To hide the axes, right-click in the white space and click on "Axes."
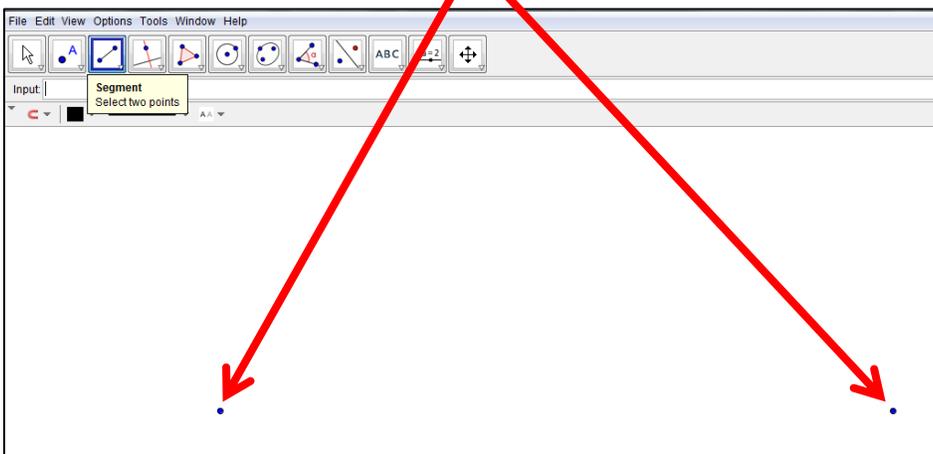
Type the following items into the Input Bar. Press Enter after typing each item.
These actions will construct a point at the origin and a point at (1,0).

Select the Segment tool at the top of the screen. There are tiny triangles in the bottom right of each button that will open sub-menus when you click on them.
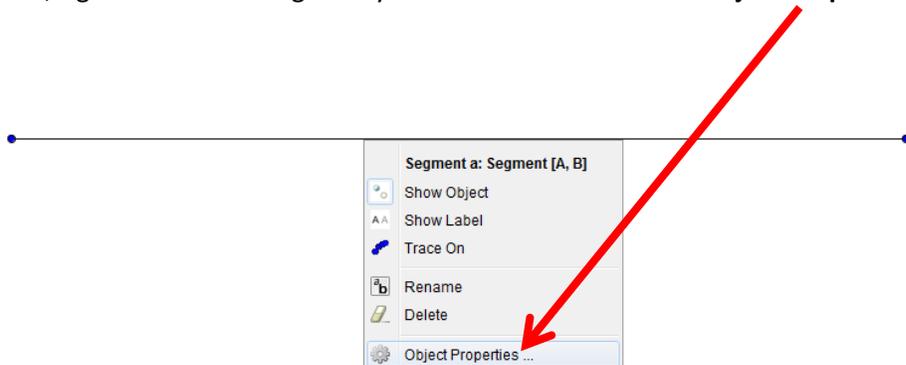
Then, click on the two blue points you made to construct the number line segment.
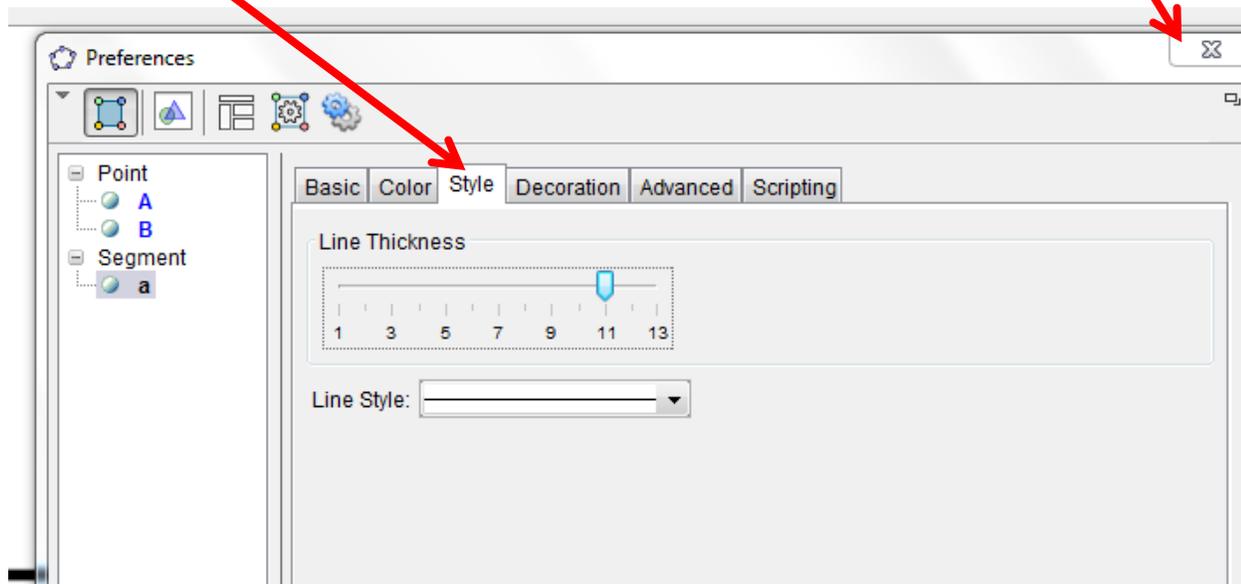
Press **Esc** to get back to 'Move' mode.

Then, right-click on the segment you constructed and select **Object Properties**.

Segment a: Segment [A, B]
Show Object
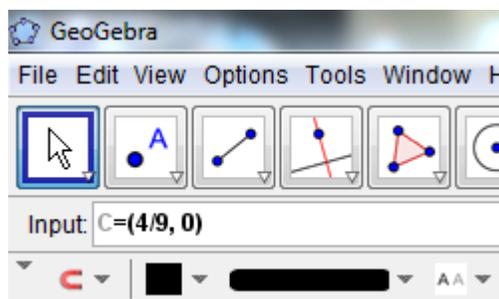A A Show Label
Trace On
Rename
Delete
Object Properties ...

From this menu, you can alter the appearance of the segment.

Click on the **Style** tab. Use the slider to increase the thickness of the number line. Click on the X when finished.
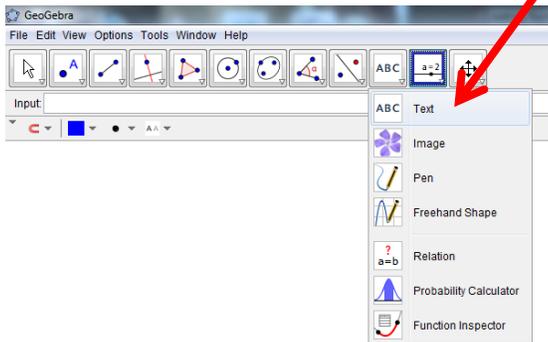
Preferences

Point
  A
  B
Segment
  a

Basic | Color | Style | Decoration | Advanced | Scripting

Line Thickness

1   3   5   7   9   11   13

Line Style: ▼

For this example, let's graph the fraction 4/9 on the number line. In the Input Bar, type the following.

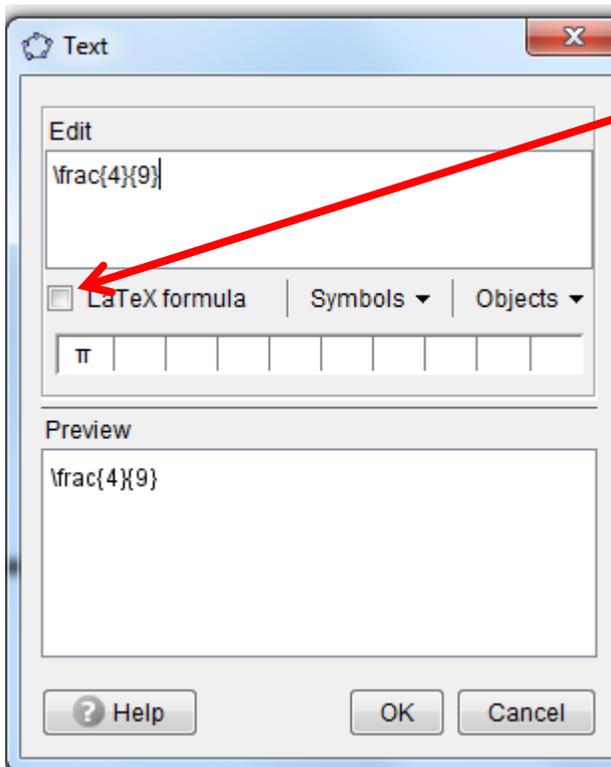Press ENTER to graph a new point C with x-coordinate 4/9 and y-coordinate 0.

GeoGebra

File Edit View Options Tools Window H

Input: C=(4/9, 0)

To make a textbox labeling 4/9, click on the textbox tool at the top. Then, left click in the white space.

Type the following into the Text window. When finished typing, click on the Check Box marked **LaTeX Formula**. Then click **OK**.

You can modify the appearance of any object in the sheet by right-clicking and selecting "Object Properties."

If you have further questions, you can email me (Shelby Aaberg) at saaberg@sbps.net.