


Name: \_\_\_\_\_

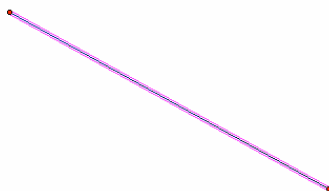
Date: \_\_\_\_\_


**ENTER** **COS** **ENTER** **TAN** **ENTER** **ON** **ALPHA**  
 **$x^{-1}$**  **ALPHA** **LOG** **ENTER**

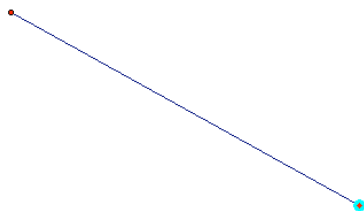
**Instructions:** Today we are going to discover what happens when you draw three angle bisectors of a triangle. We are going to use the Geometer Sketchpad software on the computers in the computer lab. Please proceed at this time to the computer lab. Log in to your computer and double click on the Geometer Sketchpad icon. Wait for me to tell you to continue.

Follow these steps:

1. Click on the straightedge tool in Geometer's Sketchpad. It looks like this: 
2. Next, click anywhere on the screen. A red dot will appear. Move the pointer to a spot on the screen where you want your line segment to end. When you have the pointer where you want your line segment to end, click again. You will end up with a line segment that looks similar to this:

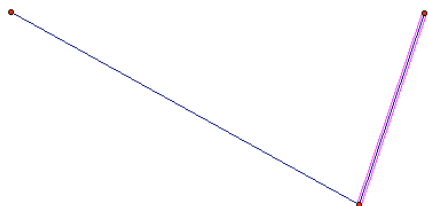


3. Select the arrow tool. It looks like this: . Now, move the mouse arrow over top of one of the endpoints. It will be highlighted with a blue color. It will look something like this:

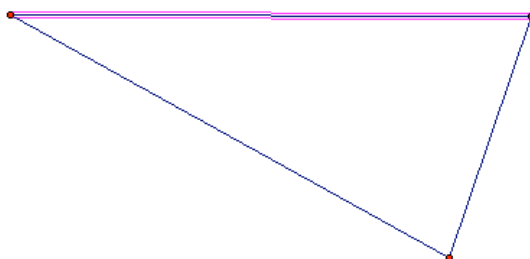


Notice the blue highlighted endpoint


4. Click on the endpoint and move the mouse arrow ← to the spot where you want the second side of your triangle to end. Click the mouse again and your new line segment will appear. It should look something like this:

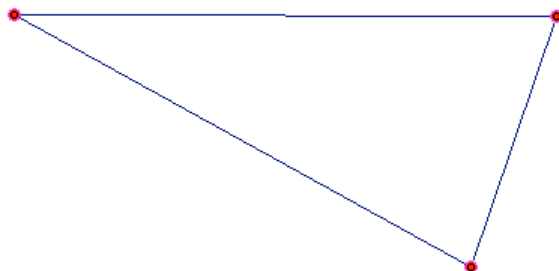


5. Now, connect the two remaining dots by clicking on one, dragging the mouse to the other one, and clicking again. It should look similar to this:



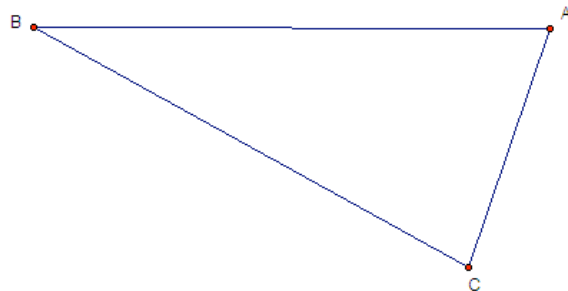
**Congratulations! You just made a triangle!**

6. Before we make angle bisectors, we need to label our angles. In order to do this, we need to first click on the Arrow Tool. It looks like this: 
7. After you have clicked on the Arrow Tool, you need to use the mouse arrow to click on all three points. Do this one at a time. You can tell that they are all highlighted when they all turn pink. It should look like this:



8. When all three points are highlighted, click on the Display menu at the top. It will pull down and you will then click on the “Show Labels” button. It looks like this →

The triangle should look similar to this, meaning that you should see a triangle on your screen. Any size triangle will work.

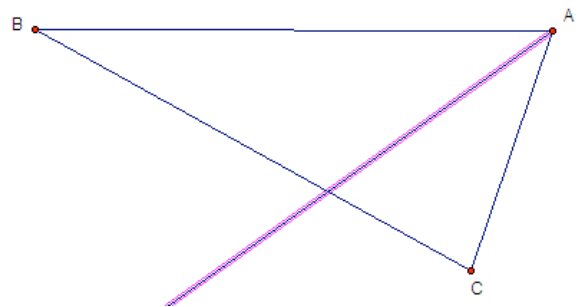


Display	Construct	Transform	Measure
Line Width			▶
Color			▶
Text			▶
Hide Points		Ctrl+H	
Show All Hidden			
Show Labels		Ctrl+K	
Label Points...		Alt+ /	
Trace Points		Ctrl+T	
Erase Traces		Ctrl+B	
Animate Points		Alt+ `	
Increase Speed		Alt+ ]	
Decrease Speed		Alt+ [	
Stop Animation			
Show Text Palette		Shift+Ctrl+T	
Show Motion Controller			
Hide Toolbox			

9. To make a bisector for angle A, we need to highlight all three points in a specific order. So, make sure that the Arrow Tool is still in use, then click anywhere on the screen that isn't part of the picture. This way, there is nothing highlighted. Now, click first on point B, then click on point A, and lastly click on point C.

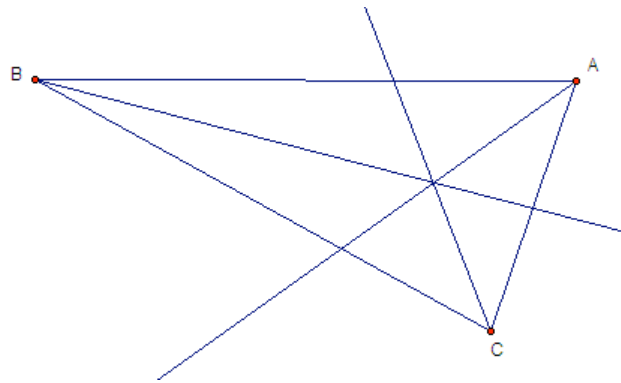
10. While all angles are highlighted, click on the Construct menu. It will pull down and you will then click on the “Angle Bisector” button. This looks like:

The picture will look similar to this:

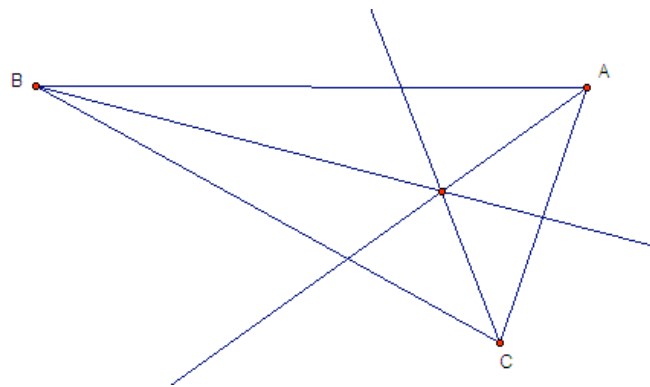


Construct	Transform	Measure	Graph
Point On Object			
Midpoint		Ctrl+M	
Intersection		Ctrl+I	
Segments		Ctrl+L	
Rays			
Lines			
Parallel Line			
Perpendicular Line			
Angle Bisector			
Circle By Center +Point			
Circle By Center +Radius			
Arc On Circle			
Arc Through 3 Points			
Triangle Interior		Ctrl+P	

11. Do the same for the other two angles. You will get a picture similar to this:



12. Lastly, using the Arrow Selector Tool, click on the interesting point of all three bisectors. Your final result should look like this:



This point is called the **Incenter** of the triangle. You may label this as point P using the same method that we used to label all of the other points.

