Drawing types of Triangles

Interactive: http://www.mathsisfun.com/geometry/triangles-interactive.html

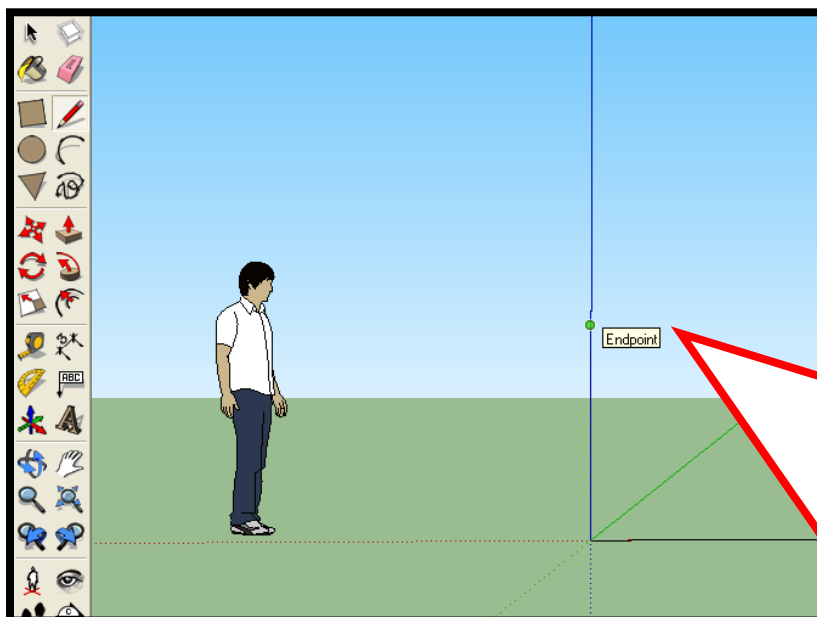## Let's start off by creating a 90° angle

- A right triangle is a triangle with one right (90°) angle.
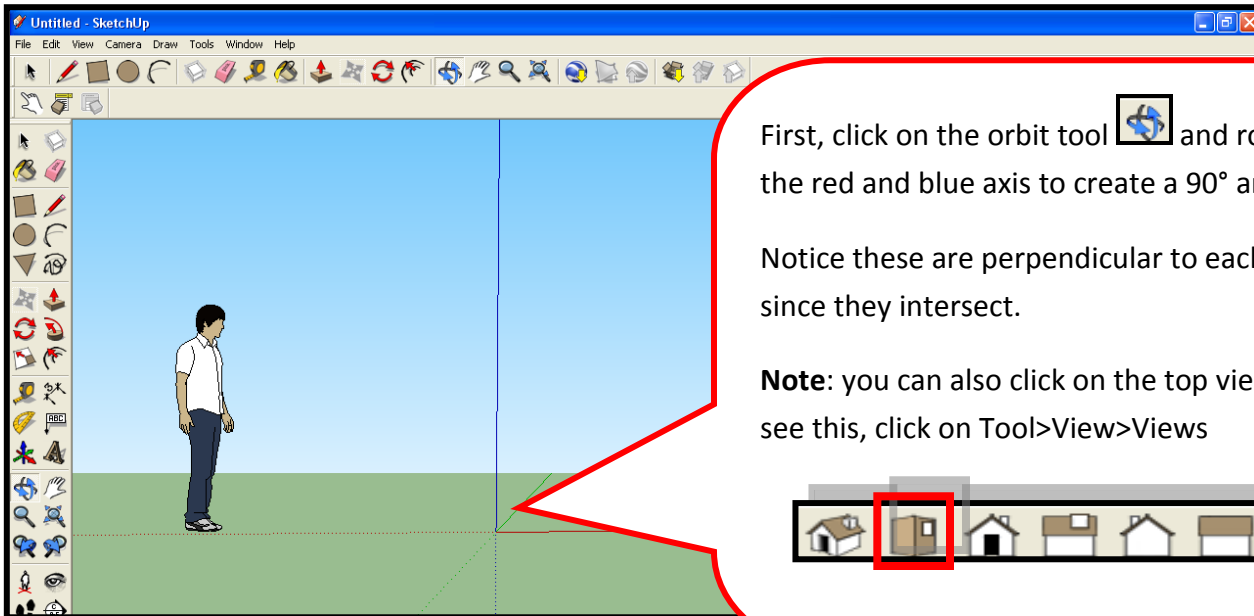
First, click on the orbit tool and rotate the red and blue axis to create a 90° angle.

Notice these are perpendicular to each other since they intersect.

Note: you can also click on the top view. To see this, click on Tool>View>Views

Click on the pencil tool.

- Click on the blue axis vertical line. You will see a green endpoint.

- Next, click on the origin (intersection of red and blue axis.

- Now click on the red axis line

- Finally, click back on the green endpoint on the blue Y axis (where you started.)

- It will form a triangle.

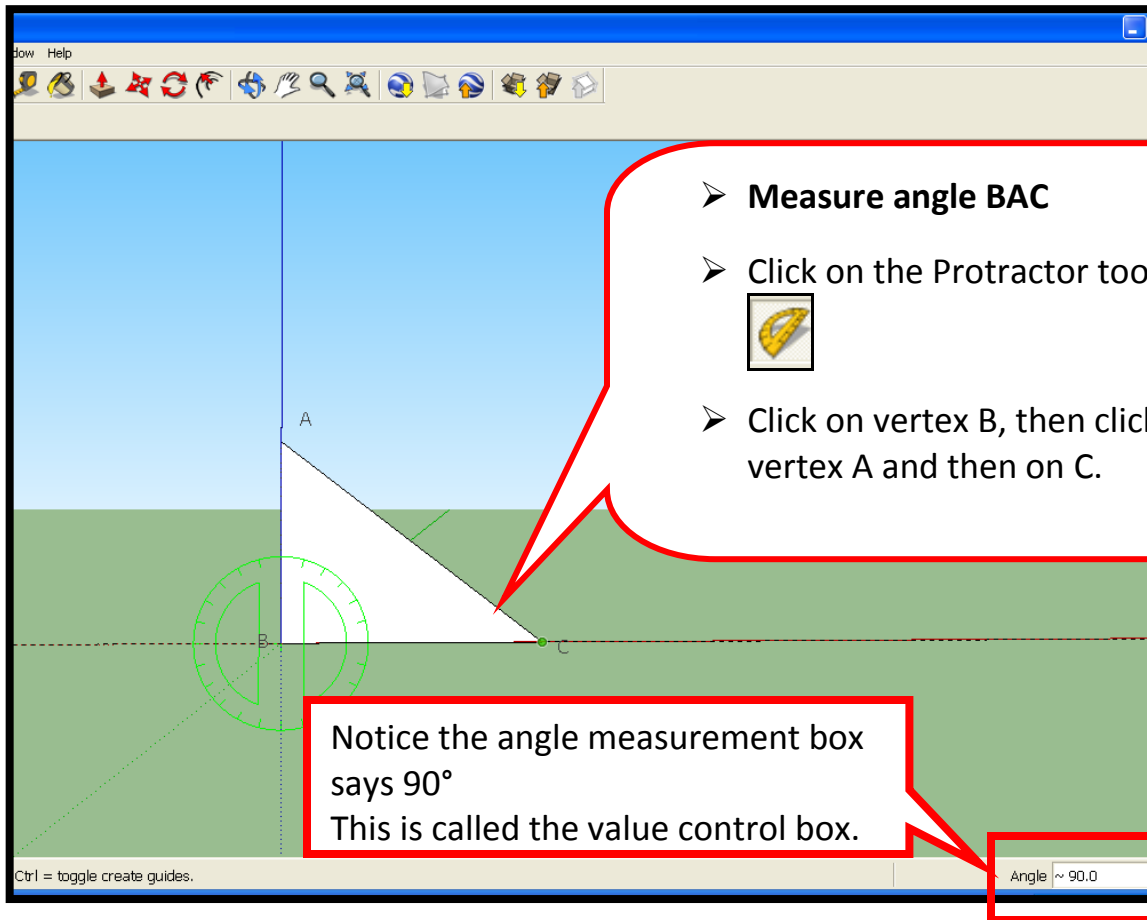Sharon Thornton- Instructional Technology
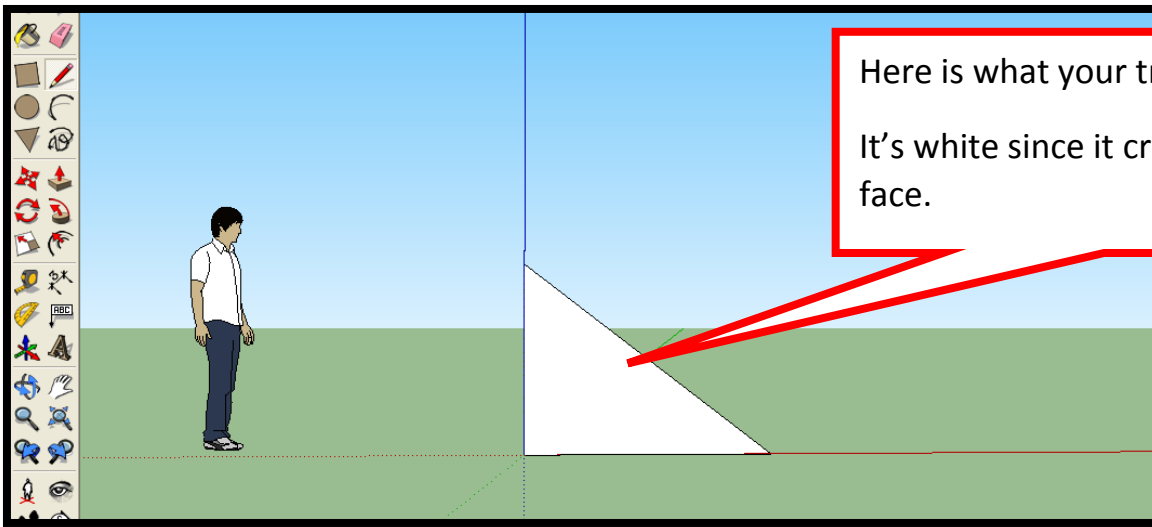
Here is what your triangle will look like.

It's white since it created an outside face.
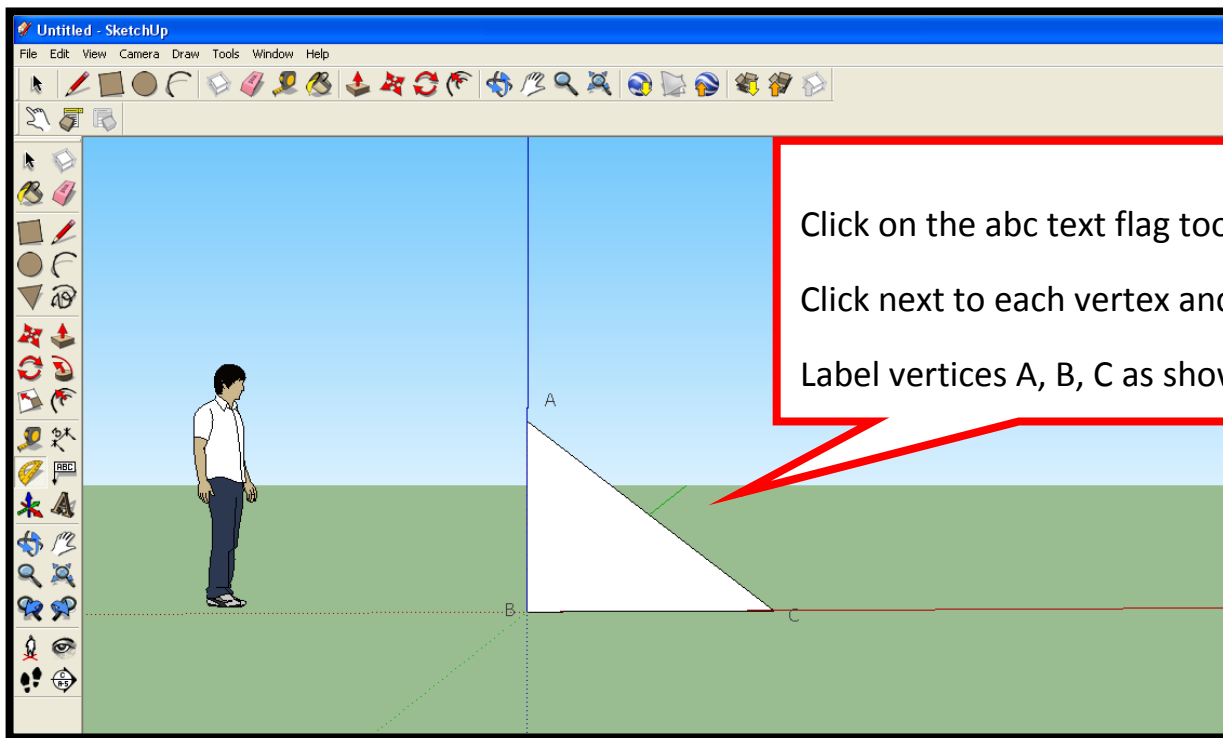
Click on the abc text flag tool

Click next to each vertex and label.

Label vertices A, B, C as shown.

A

B   C

➢ **Use the protractor tool to Measure the angle of this triangle.**

> - **Measure angle BAC**
> - Click on the Protractor tool.
> - Click on vertex B, then click on vertex A and then on C.

Notice the angle measurement box says 90°
This is called the value control box.

Ctrl = toggle create guides.   Angle ~ 90.0

> **Let's draw 2 second kind of Triangle –let's practice first**

This time will us the **polygon tool**. It looks like an upside down triangle.

The default comes up to draw a pentagon (6 sides)- not a triangle.

So before you start drawing, type 3S and **press the enter key**- now you will be able to draw a triangle.
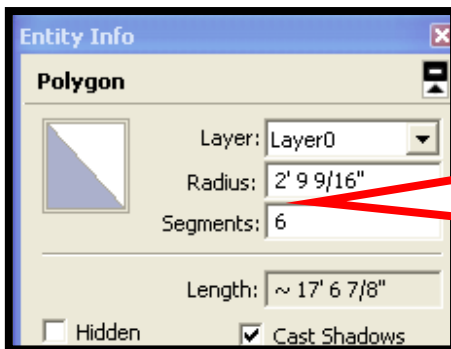
Notice how it says **3S** in the bottom window. Click and pull and turn to draw triangle.

Select center point   Sides 3s
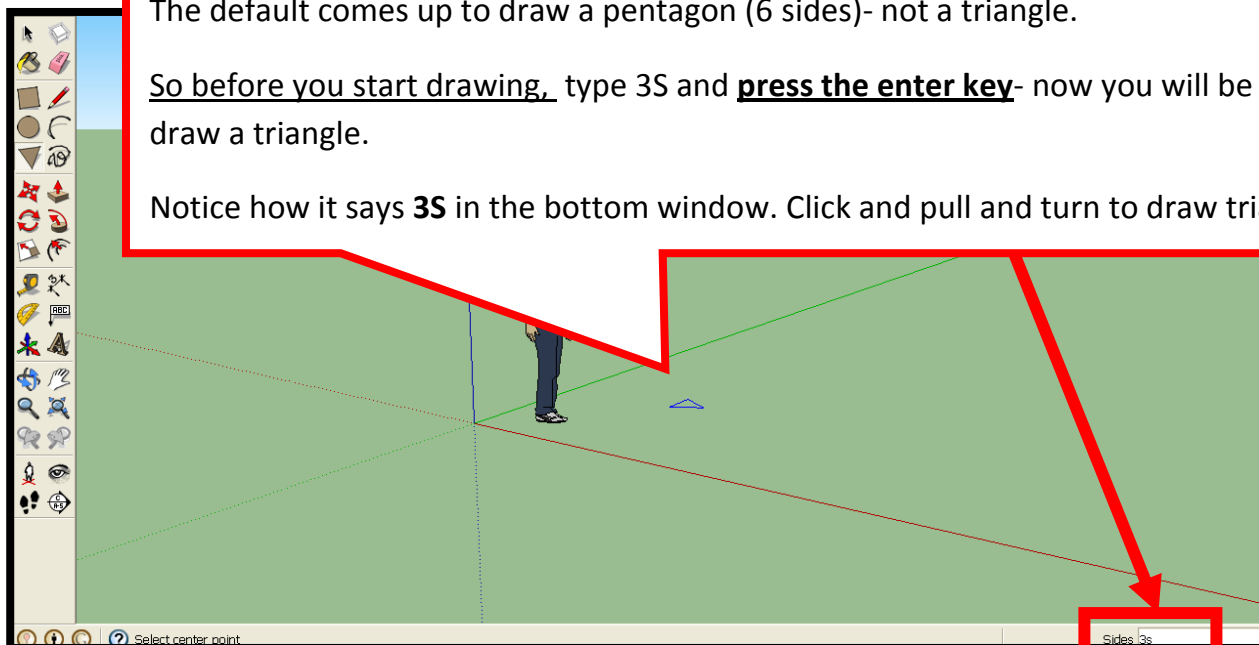
Note; If you happen to click away and don't have the right number of sides, go ahead and draw it. Then click outside and press the space bar.
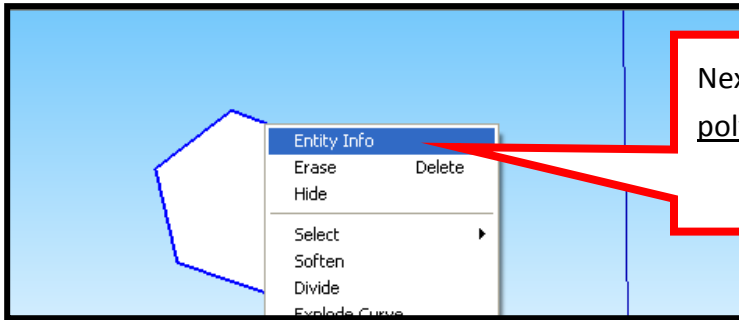
Next select (click on) only the lines of the polygon then right click and choose **Entity Info.**

Entity Info
Erase   Delete
Hide

Select   ▶
Soften
Divide
Explode Curve

Entity Info

Polygon

Layer: Layer0

Radius: 2' 9 9/16"

Segments: 6

Length: ~ 17' 6 7/8"

☐ Hidden   ☑ Cast Shadows

You can change the number of sides here. They are called Segments. Type 3 and Press the enter key and your polygon changes to a triangle.

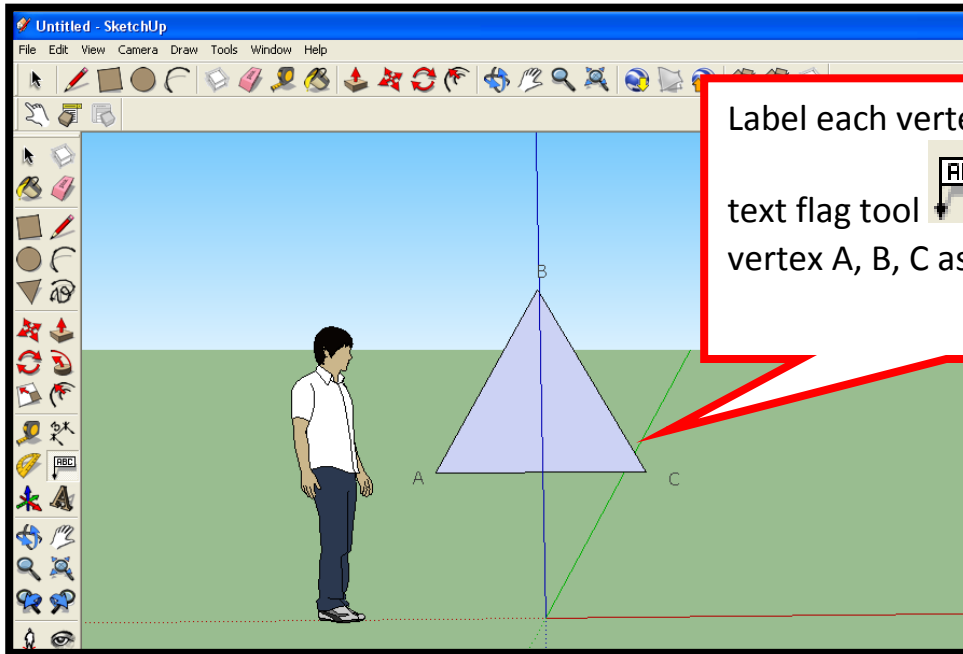Click on the move tool 🔀 Click on the man and drag him to the other side of the blue axis.

➢ Now you're ready to draw another type of triangle. Let's get started.

Untitled - SketchUp

File Edit View Camera Draw Tools Window Help
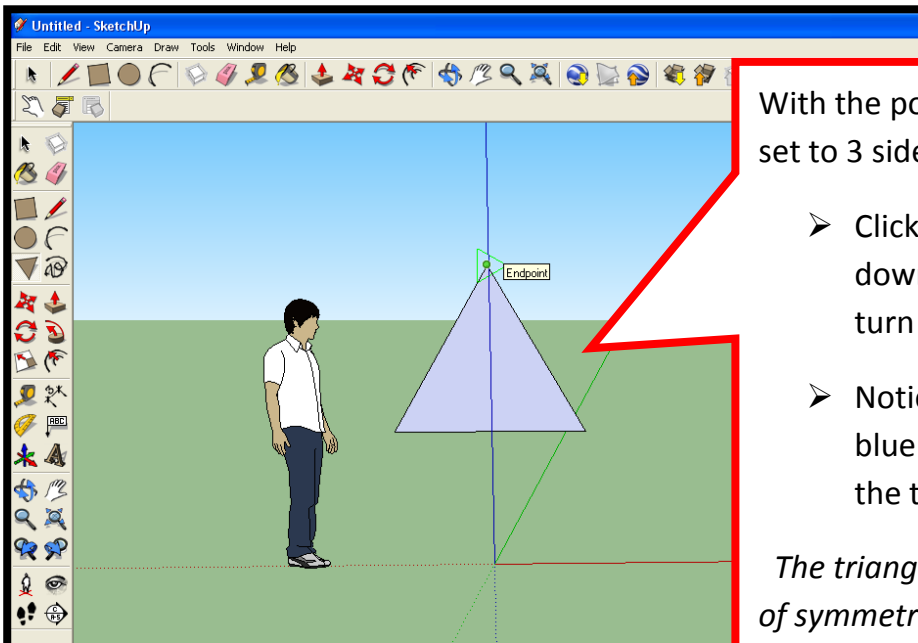
Endpoint

With the polygon tool still selected and set to 3 sides-

➢ Click on the blue "Y" axis and pull down to draw a triangle. You can turn the triangle as you draw.

➢ Notice the endpoint on the blue"Y"axis at the top vertices of the triangle when you click on it.

The triangle should have a vertical line of symmetry right down the middle as shown.

chnology

Label each vertex. Click on the abc text flag tool `ABC` and label each vertex A, B, C as shown.

Now let's measure the angle of BAC to see what kind of triangle this is.
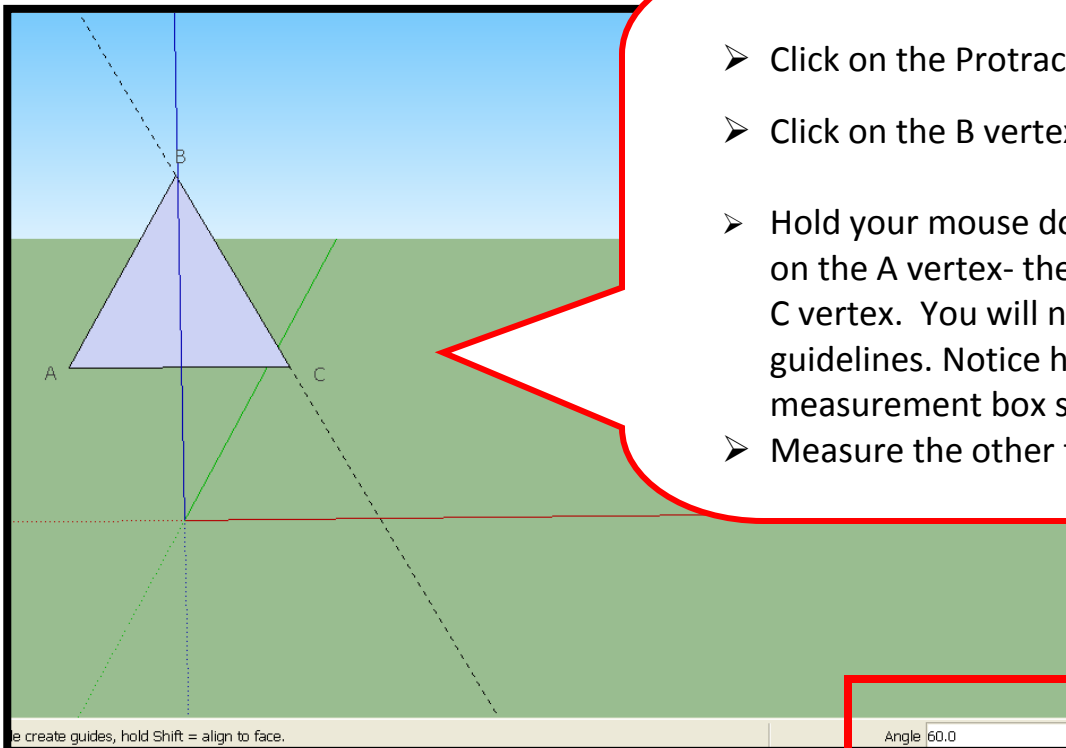
- ➢ Click on the Protractor tool.
- ➢ Click on the B vertex.
- ➢ Hold your mouse down and drag and click on the A vertex- then drag and click on the C vertex. You will now see these dotted guidelines. Notice how the angle measurement box says 60°
- ➢ Measure the other two angles.

Angle 60.0

Since the angles are all 60° so it is an acute triangle.
-An acute triangle is a triangle with all three angles less than 90°.

ctional Technology

Click on the eraser [icon] tool. Now click on the guideline to erase it.

Or got to View>Guidelines and they will disappear.

Now let's draw an obtuse angle since we know it's that last one left
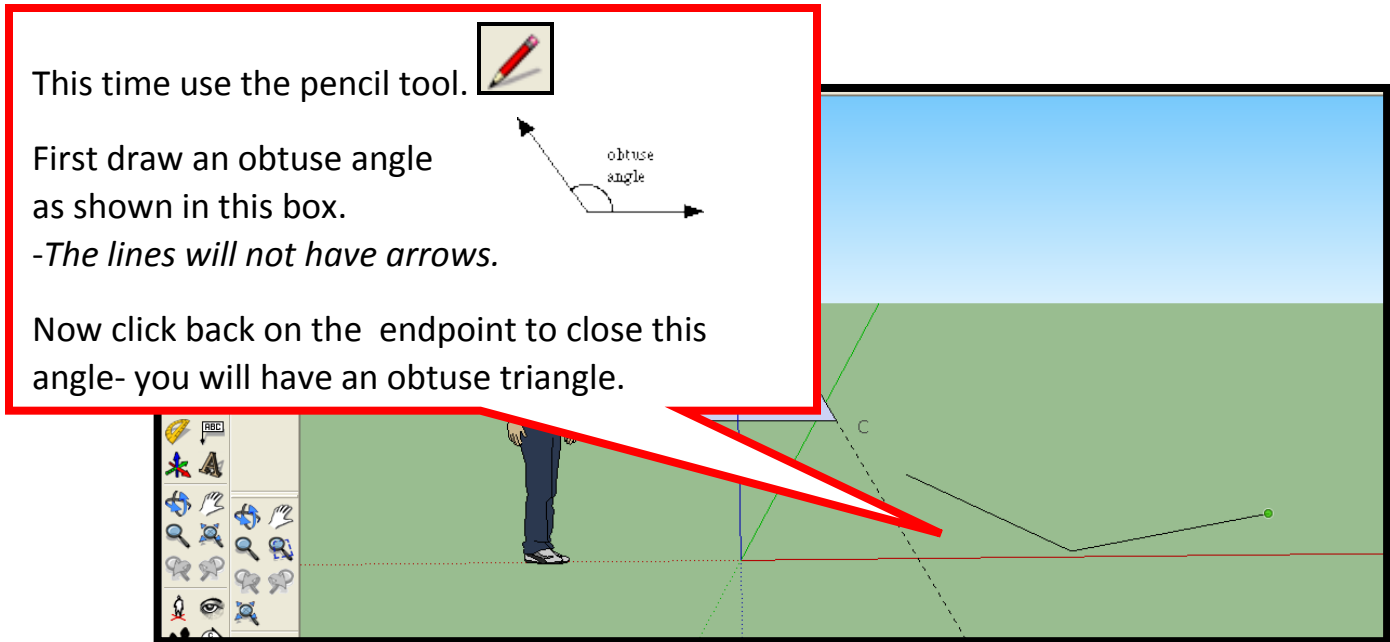   -An obtuse triangle is a triangle with one angle more than 90°.

You can draw lines that are not aligned or snapped to an axis.

This time use the pencil tool. [icon]
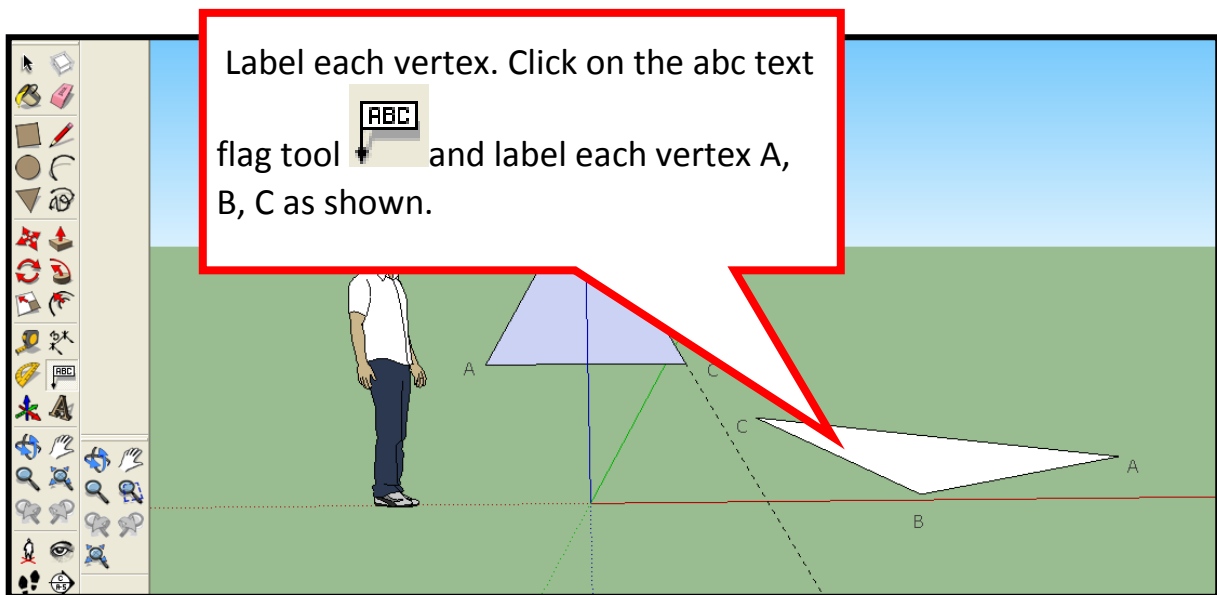
First draw an obtuse angle
as shown in this box.
-*The lines will not have arrows.*

obtuse
angle

Now click back on the endpoint to close this
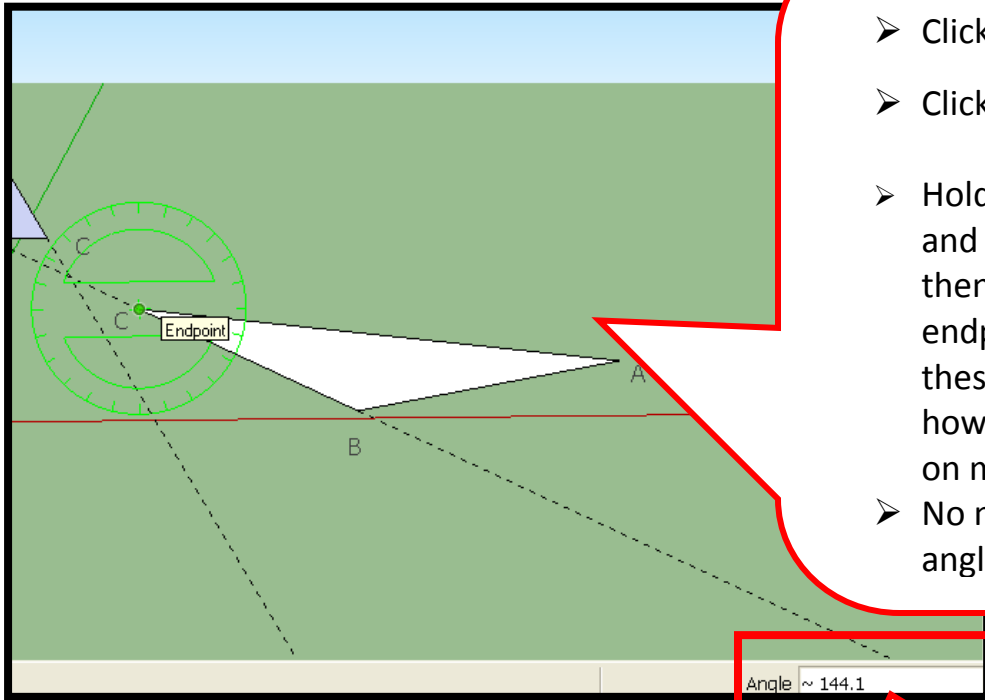angle- you will have an obtuse triangle.

C

Label each vertex. Click on the abc text

flag tool [ABC] and label each vertex A,
B, C as shown.

A

C

C

A

B

- Click on the Protractor tool.
- Click on the B vertex.

- Hold your mouse down and drag and click on the B endpoint vertex- then drag and click on the A endpoint vertex. You will now see these dotted guidelines. Notice how the angle measurement box on mine says 144°
- No need to measure the other two angles.

Since at least one of the angles is greater than 90° this is an obtuse triangle.
  - An obtuse triangle is a triangle with one angle more than 90°.

- Practice drawing more acute and obtuse triangles.