Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Geometry Period \_\_\_\_\_

# Right Triangles and Trig Chapter 8 Geometer’s Sketchpad Activity

**45-45-90 Triangles!**

Create a 45-45-90 triangle. To do this: Construct a circle. Right click to label the center A. Label the point on the circle B. Create the radius of that circle, segment AB. Select the radius and the center of the circle. From the CONSTRUCT menu, choose PERPENDICULAR LINE. Create a point where the perpendicular line crosses the circle. Label the point C. Right click to hide the line. Create the segment that connects the center of the circle to the new point, segment AC. Create the segment from B to C.

 Measure all the angles and segments of the triangle.

What kind of a triangle is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which segments would be the LEGS? \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ Hypotenuse? \_\_\_\_\_\_\_\_

What do you notice about the legs of the triangle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Choose CALCULATE in the MEASURE menu. Multiply the measure of AC by the square root of 2. To do this: Click on the measure of AC. It should appear in the calculate box. Click on the multiply sign. Select function and **sqrt**. Insert a 2 and click okay.

 What do you notice about the measure of segment CB and the answer you got from multiplying segment AC by the square root of 2?

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**30-60-90 Triangles!**

Create a 30-60-90 triangle. To do this: Create a segment. Label its endpoints D and E. Select the segment and point D. From the CONSTRUCT menu, choose PERPENDICULAR LINE. Construct a point on that line and label it F. Right click to hide the line. Create the segment that connects points F and D. Construct segment FE. Measure all of the sides and angles of the triangle. Move the vertex of angle F until you can get as close as possible to a 60 degree angle.

What do you notice about angle E? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What kind of triangle is this? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Which segment would be the SHORT SIDE? \_\_\_\_\_\_\_\_ LONG SIDE? \_\_\_\_\_\_\_\_ Hypotenuse? \_\_\_\_\_\_\_\_

# Right Triangles and Trig Chapter 8 Geometer’s Sketchpad Activity (Continued)

Choose CALCULATE in the MEASURE menu. Multiply the measure of the short side by 2. To do this: Click on the measure of the short side. It should appear in the calculate box. Click on the multiply sign. Click on 2, and click okay.

 What do you notice about the measure of the hypotenuse and the answer you got from multiplying the short side by 2?

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Choose CALCULATE in the MEASURE menu. Multiply the measure of the short side by the square root of 3. To do this: Click on the measure of the short side. It should appear in the calculate box. Click on the multiply sign. Select function and **sqrt**. Insert a 3 and click okay.

 What do you notice about the measure of the long side and the answer you got from multiplying the short side by the square root of 3?

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**Save Your Work**

After you have completed the tasks, save the document in the folder listed below:

Student Common Drive mary.gruver folder Classes folder Select Your Period Share

Make sure you call it “Chapter 8 Activity” followed by your last name and your partner’s last name if you had one. Ex: Chapter8ActivityGruverBaldree