Geometry Lab—Answer questions on separate paper in complete sentences. Draw diagrams if they will support your explanations.

Part 1:

1. Watch the animated slide show and follow the prompts for each slide, then answer the questions.

<http://ccsstoolbox.agilemind.com/animations/standards_content_visualizations_geometry.html>

Slide 1: Watch. Read the box below the dilation.

Slide 2: Watch and read the box below the dilation. What happens when you move the slider? Where is the image in relation to the center of dilation and pre-image when the line is dilated by -.5? When you use the slider to increase the scale factor to 1.7, then click show dilated line what do you notice? What happens when you click show dilated ratios?

Slide 3: Watch slide 3 and then 4. What do you predict will happen in slide 5?

Slide 5: Watch slide 5. Explain how to dilate a circle by a factor of 4.

Slide 6: Use the slider to answer: What is the ratio of the radii of the circles when the circles are the same? Where is the circle when the dilation factor is -1?

Slide 7: Answer the question. Explain why you think yes or no.

Slides 8 and 9: Watch. Was your solution to 7 correct?

How can you use these animations to predict the size of a regular Greenie? Be specific.

Part 2:

Go to <http://web.geogebra.org/app/>

Use the Algebra setting and “start creating.” Skip logging in.

1. Choose the polygon tool and create any triangle that has a base that in NOT parallel to the x or y axes.
2. Scroll down on the point tool to find the midpoint setting. Find the midpoint of side AB and the midpoint of side AC.
3. Use the segment tool to draw DE.
4. Write down the ratio of DE/BC. What do you notice? Since AD and AE are midpoints, all the sides of triangle ABC are in portion to triangle ADE. That means what is the relationship between the triangles?
5. How can you prove that DE is parallel to BC?