Geogebra – Symmetry Lab

Rotational Symmetry

1. Open Geogebra under the apps and "start creating" "geometry"
2. Using the "Polygon" tool, create a multi-sided polygon.
3. Create a point not in or on the polygon.
4. Using the "rotate around Point" tool, rotate your shape several times(until you get a full circle), using the same degree of rotation each time(ex 45).
5. Color the original polygon blue.
6. Grab a point on your pre-image and move it. How did it change your shape?
7. Move your points around on your pre-image until you have a really cool rotation.
8. Create a 2nd polygon and rotate it, changing the degrees of rotation. How did changing the degree, change the shape?
9. Export the image to a google doc with answers to #6 and #8.

Reflectional Symmetry

1. Select "Start Creating" and "Geometry"
2. Using the "Polygon" tool, create a multi-sided polygon.
3. Using the "Segment" tool, create a segment close to, but not touching, your polygon.
4. Using the "Reflect about Line" tool, reflect your shape across the segment.
5. Click the original image and color it blue.
6. Grab one end of your segment and move it around. How does that change your reflection?
7. Grab one of the points on your preimage and move it around. How does that change your reflection?
8. Move your points on your preimage around until you have a really cool reflection.
9. Using the "Segment" tool, create segment AA'.
10. What do you notice about the intersection of AA' with your line of reflection?
11. Using the "Point" tool, put a point on the intersection of AA' and your line of reflection.
12. Using the Distance and Angle" tool, the segments and angles created by the intersection. What do you notice?
13. Export your image to a google doc and answer #10 and #12