**Activity 1.4.3 Exploring Reflections**

**For this activity you will need, paper, pencil, ruler, and protractor.**

1. Take a sheet of paper. Draw a line *l* and a point *A* on one side of *l.*
2. Fold the paper over line *l*. Mark the point on the other side of *l* from *A* where *A* touches. Call this point *A*’.

A’ is the image under reflection of point *A* over line *l.*

3. Unfold the paper. Draw segment $\overbar{AA’}$. Label the intersection of $\overbar{AA’}$ and *l* as point *P*.

4. Measure *PA* and *PA*’. **What do you notice?**

5. Measure the angle formed by $\overbar{AA’}$ and *l*. **What do you notice?**

6. Locate another point on the same side of *l* as A. Call this point B. Fold the paper again and locate B’ the image of B under reflection over *l.*

7. Draw segments $\overbar{AB}$ and $\overbar{A’B’}$. Measure *AB* and *A’B’*.
**What do you notice?**



8. Locate another point on the same side of *l* as *A* and *B*, but not on line $\overleftrightarrow{AB}$. Call this point *C*. Fold the paper again and locate *C’* the image of *C* under reflection over *l.*

9. Draw segments $\overbar{AC}$ and $\overbar{A’C’}$. Measure angles $∠$*CAB* and $∠$*C’A’B’*. **What do you notice?**



10. Draw segments $\overbar{BA}$ and $\overbar{B’C’}$. You know have two triangles ∆*ABC* and ∆*A’B’C’*. Describe the orientation
of *A-B-C* as clockwise or counterclockwise. Describe the orientation of *A’-B’-C’* as clockwise or counterclockwise. **What do you notice?**

11**. In the space below, summarize the properties of reflections you have observed in this activity.**