Name_____ Date_____

3.2 Special Angles on Parallel Lines Notes and Practice

Throughout this investigation, you will determine if there are relationships between special pairs of angles when lines are parallel.

1. Go to https://www.geogebra.org/geometry
2. Construct a line with the line tool (Basic Tools)
3. Construct a line parallel to the line you just constructed (click "More" and it is in the Construct section).
4. Construct a transversal (a third line intersecting the two parallel lines) using the line tool.
5. Construct points (Basic Tools) at the intersections of each line and on either side of both intersections (9 points total).
6. Draw what you see below on your screen in the box below.

a. Which angles are Alternate Interior Angles?

b. Which angles are Corresponding Angles?

c. Which angles are Alternate Exterior Angles?

d. Which angles are Consecutive (Same-Side) Interior Angles?

7. Find the measure of each of the eight angles using the angle tool (in the "Measure" section). To use it, click on a point on one side of the angle, the vertex, then a point on the other side of the angle in a counter clockwise direction.

8. Look at all of your measurements and see if you notice any patterns among the special pairs of angles. Compare your results with your group members. Using you *inductive* reasoning skills, fill in the following conjectures.

If parallel lines are cut by a transversal, then corresponding angles _____.

If parallel lines are cut by a transversal, then alternate interior angles _____.

If parallel lines are cut by a transversal, then consecutive interior angles _____.

If parallel lines are cut by a transversal, then alternate exterior angles _____.

Using these conjectures, see if you can find the measures of the missing angles in the picture below