Patty Paper Worksheet 3

Finding Parallel Lines

inspired by Michael Serra's *Patty Paper Geometry*.

1. Fold a line on a patty paper. Unfold. Mark this line l.

2. Discover a method for making another line that is parallel to l. Remember that this is a patty paper investigation so you can only make use of a pencil and patty paper(s). Describe your process and *justify* why your method works.

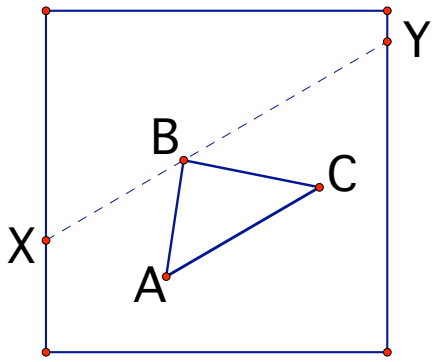
3. Use your pencil to make a point not on the line l. Discover a method for folding a line through the point so that it is parallel to the line l. Compare your method with other groups and, if different, determine which method you like better.

4. Describe your favorite process of making a line parallel to a given line l that also runs through a specified point.

Sum of Angles in a Triangle

1. Draw a triangle on your patty paper near the center and identify the vertices A, B, and C.

2. Use the method described on the front of this worksheet to make a line parallel to AC that also passes through B. Label the points where this new line intersects with the edges of the patty paper as X and Y, as shown.



3. There should be five angles on your patty paper now. Are any of the angles on the patty paper are the same? If so, mark them.

4. The measure of $\angle XBY$ is equal to the sum three other angles. What are they?

5. What is the measure of $\angle XBY$?

6. What do the angles in a triangle add up to? *Justify* your answer.