Patty Paper Worksheet 4
Haga’s Theorem

inspired by Kazuo Haga’s “Folding Paper and Enjoy Math: Origamies” in Origami: Third International Meeting of Origami Science, Mathematics, and Education.

1. Take a patty paper and mark a point $P$ at random along the top edge of the paper.

2. Fold the lower right corner to the point $P$ as depicted.

3. Notice that there are (usually) three triangles that are formed by the fold you made in step two. Label the triangles $A$, $B$, and $C$ as done above.

4. What nice relationship must be true about triangles $A$, $B$, and $C$? Justify your conclusions.

5. Suppose that you took the point $P$ to be the midpoint of the top edge. Use your above observation to find out what lengths $x$ and $y$ must be in the figure to the right.