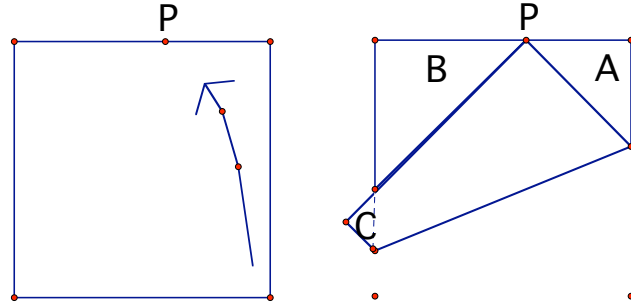


Patty Paper Worksheet 4

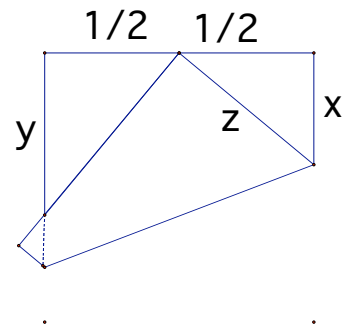
Haga's Theorem

inspired by Kazuo Haga's "Folding Paper and Enjoy Math: Origamics" 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.