

## A Two-Smokestack Ship

Activities that involve folding paper to make ships and planes offer the opportunity for young children to develop intuitions and familiarity with geometric situations. Instructions and pictures to fold the ship can be found at <http://www.public.asu.edu/~aaafp/barco/smkst.html>

Start with a square sheet of paper. Find the center of the square by folding the middle lines and opening the sheet again. Notice that four squares are formed. Compare the area of each of these squares to the area of the original square.

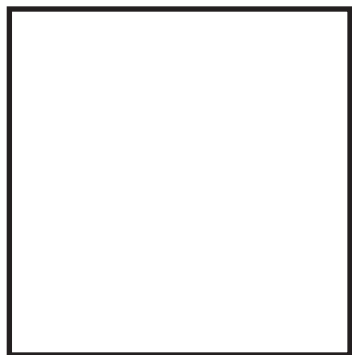


Figure 1. The original square

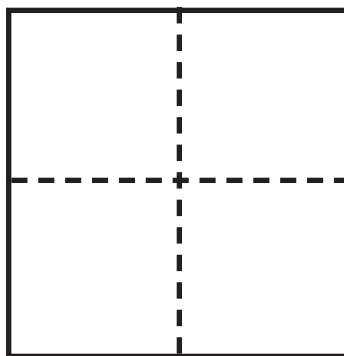


Figure 2. Two creases along the middle lines

Fold one corner so that the vertex is on the center (fig. 3). You obtain a right triangle. Fold the other three corners (fig. 4). You obtain one square formed by four right triangles. Compare the area of this square with the area of the original square.

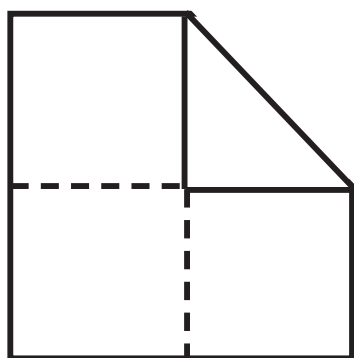


Figure 3

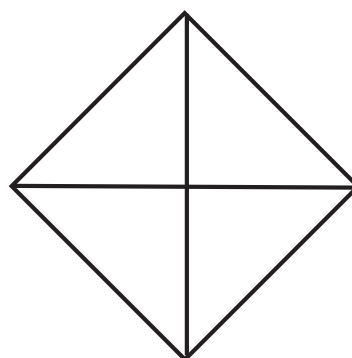


Figure 4

Flip the folded paper so that the other side is up. Fold one corner to the center (fig. 5). Fold the other corners to the center (fig. 6). You again obtain a square. Compare the area of this square with the area of the original square.

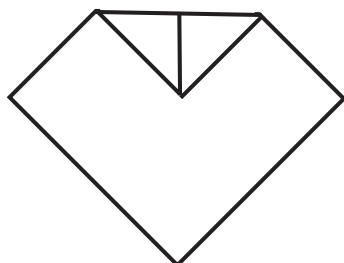


Figure 5

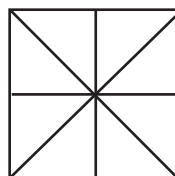


Figure 6