

Lesson 9: Symmetry in Action

- Let's investigate symmetry and perimeter in folded figures.

Warm-up: Which One Doesn't Belong: Figures

Which one doesn't belong?

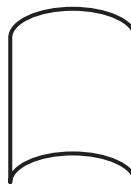
A



B



C

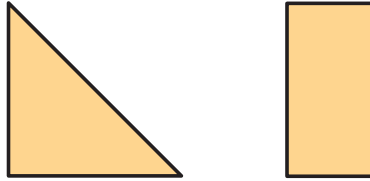


D

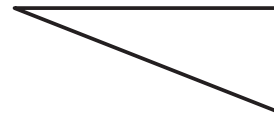


9.1: Before and After

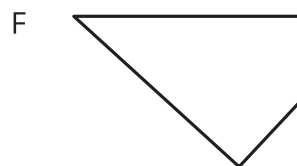
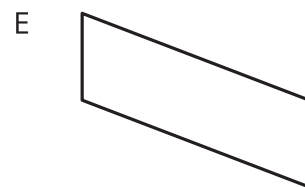
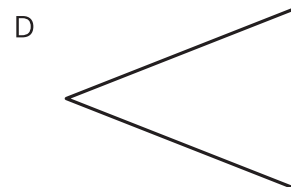
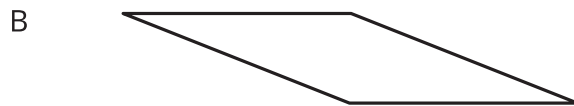
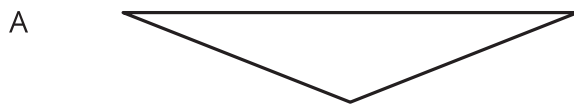
1. Mai has a piece of paper. She can get two different shapes by folding the paper along a line of symmetry. What is the shape of the paper before it was folded?



2. Diego folded a piece of paper once along a line of symmetry and got this right triangle.

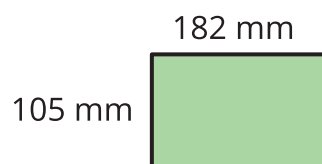


Which shapes could the paper have before it was folded? Explain or show how you know.



9.2: Before and After, Perimeter Edition

1. Jada folded a piece of paper along a line of symmetry and got this rectangle.



a. What could the paper look like before being folded? Draw one or more sketches.

b. Write an expression for the perimeter of the unfolded paper.

2. Kiran folded a piece of paper twice—each time along a line of symmetry—and got the same rectangle as Jada did.

Show that each expression could represent the perimeter of the paper Kiran folded.

a. $(4 \times 182) + (4 \times 105)$

b. $(2 \times 182) + (8 \times 105)$

c. $(8 \times 182) + (2 \times 105)$