Unit 8, Lesson 9

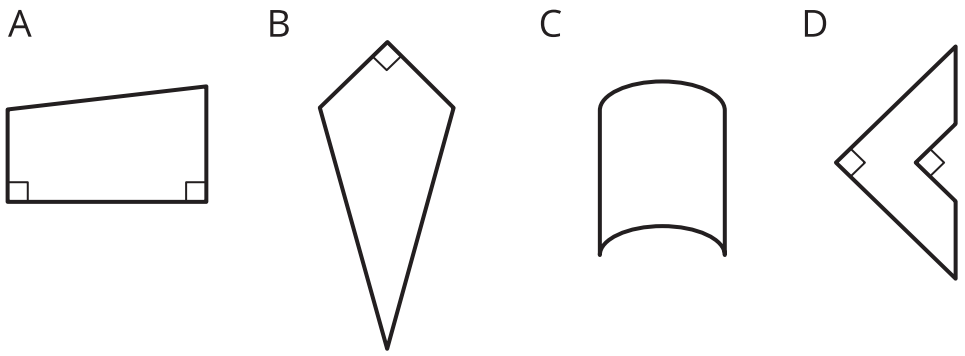
Symmetry in Action

Let's investigate symmetry and perimeter in folded figures.

Warm-up

Which Three Go Together: Figures

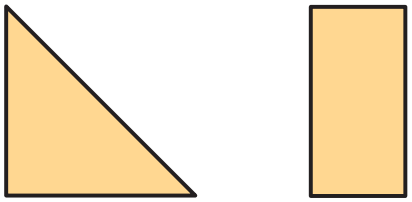
Which 3 go together?



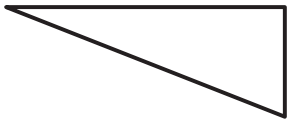
Activity 1

Before and After

1. Mai has a piece of paper. She can get each of these 2 shapes by folding the paper once along a line of symmetry. What is the shape of the unfolded paper?

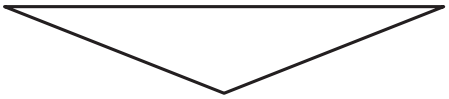


2. Diego folded a piece of paper once along a line of symmetry and got this right triangle.



Which shapes could the paper have before it was folded? Explain or show your reasoning.

A



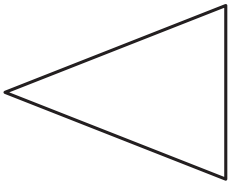
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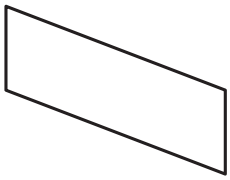
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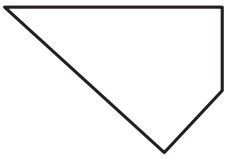
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E



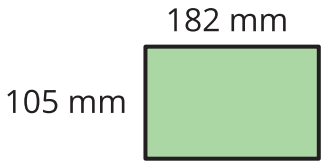
F



Activity 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 different piece of paper twice—each time along a line of symmetry. Kiran's folds created the same rectangle as Jada's did.

   Show that each expression could represent the perimeter of Kiran's unfolded paper.

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

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

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