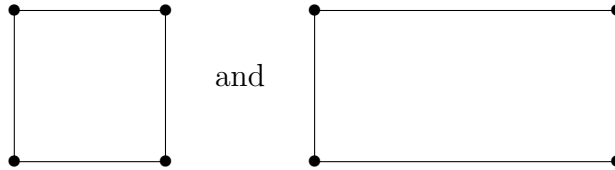


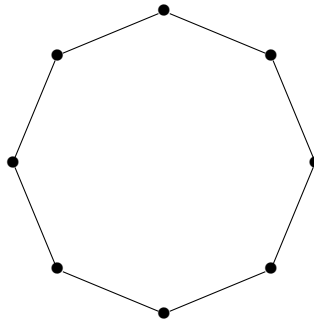
Worksheet 1: Symmetries

1. How many symmetries do



have? What makes two symmetries different?

2. For each of the shapes in 1, number the corners.
 - (a) Is there a way to view a symmetry as a function whose domain and codomain are the set of corners?
 - (b) From this point of view, give an example of a function on the corners that is not a symmetry of the above objects.
3. What might a symmetry of a deck of cards look like?
4. Classify the symmetries of



(Also be sure to say what it means to classify!)

5. Lists some properties that a symmetry (as a function) should have.

Write-up (due September 06, 2019): Write an introduction to mathematical symmetry.

- What is a symmetry?
- What kinds of things can it be applied to?
- Illustrate with the example of problem 4.