

NAME _____

Module 11 Transformation of Shapes

Lesson 4 Symmetry

Challenge Problems

11.4

Set 1

1

The word HIDE has horizontal line symmetry. Use capital letters to write as many words as possible that have horizontal line symmetry.

2

The capital letters like A, H, and I have vertical line symmetry. Use all the letters with vertical line symmetry to write as many four-letter words as possible. Use each letter only once.

Set 2

1

Which capital letters of the alphabet have rotational symmetry? Do they also have point symmetry?

2

Is it possible for a figure to have line symmetry but not rotational symmetry? If so, draw such a figure. If not, explain why.

Possible Answers

Set 1

1. CHIC, DOE, ID, CHIDE
2. The letters A, H, I, M, O, T, U, V, W, X, and Y have vertical symmetry. The following words may be made from these letters: OATH, ATOM, MOAT, WHOM, WHAT, THAW, TAXI, WAVY.

Set 2

1. The capital letters H, I, N, O, S, X, and Z have rotational symmetry. They all also have point symmetry.
2. It is possible for a figure to have line symmetry but not rotational symmetry. This arrow has horizontal line symmetry. There is no rotation less than 360° where the arrow has the same orientation.

