

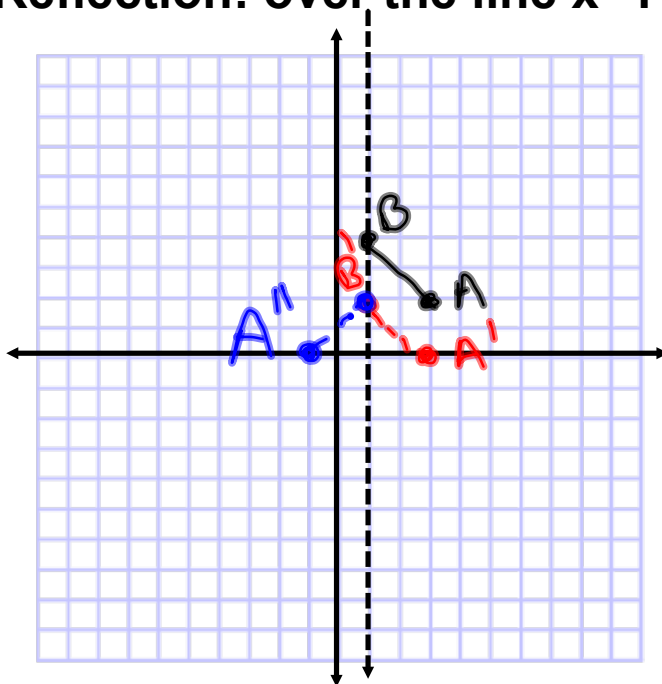
Bellwork

03/01/2012

1. The endpoints of AB are $A(3,2)$ and $B(1,4)$. Graph the image of AB after the *glide reflection*.

Translation: $(x,y) \rightarrow (x, y-2)$

Reflection: over the line $x=1$

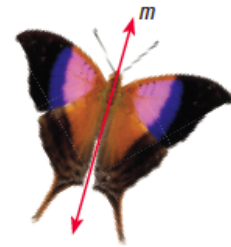


$$A'(3, 2-2) \rightarrow A'(3, 0)$$
$$B'(1, 4-2) \rightarrow B'(1, 2)$$

Geometry
9.6 Identify Symmetry
Standard(s): 3, 10

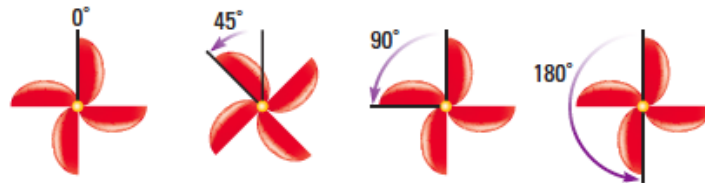
Vocabulary:

Line of Symmetry: A line of reflection in which a figure can be mapped onto itself.



Rotational Symmetry: When a figure can be mapped onto itself by a rotation of 180° or less about the center of the figure (a.k.a. center of symmetry).

Note: this can be clockwise or counterclockwise.



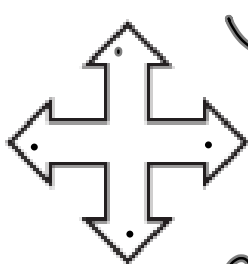
If rotational symmetry exists, find the angle of rotation and write multiples of it up to 180°!

How to find the angle of rotation:

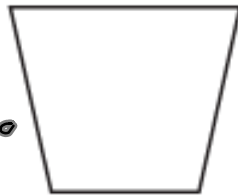
n is the number of vertices, $\frac{360^\circ}{n}$

Rotational Symmetry

Determine whether the figure has rotational symmetry. If so, describe any rotations that map the figure onto itself.

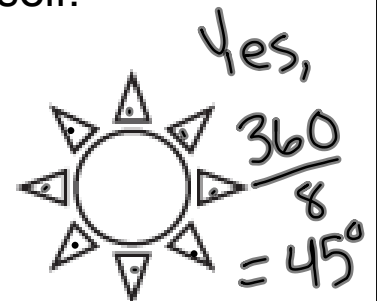
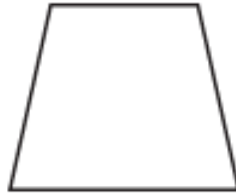
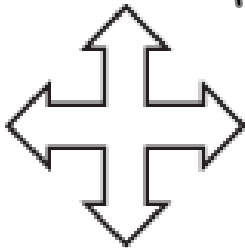


Yes,
 $\frac{360}{4} = 90^\circ$



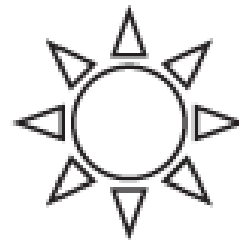
No!

$90^\circ, 180^\circ$



Yes,
 $\frac{360}{8} = 45^\circ$

$45^\circ, 90^\circ, 135^\circ,$
 180°



Lines of Symmetry

How many lines of symmetry does the object appear to have?



1

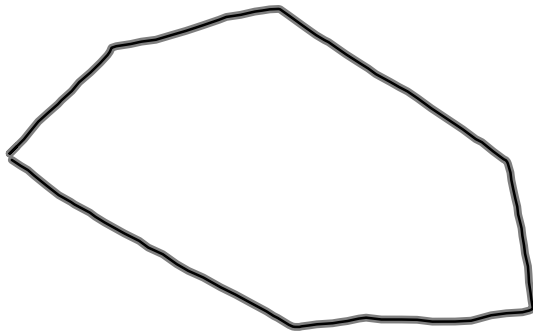


5

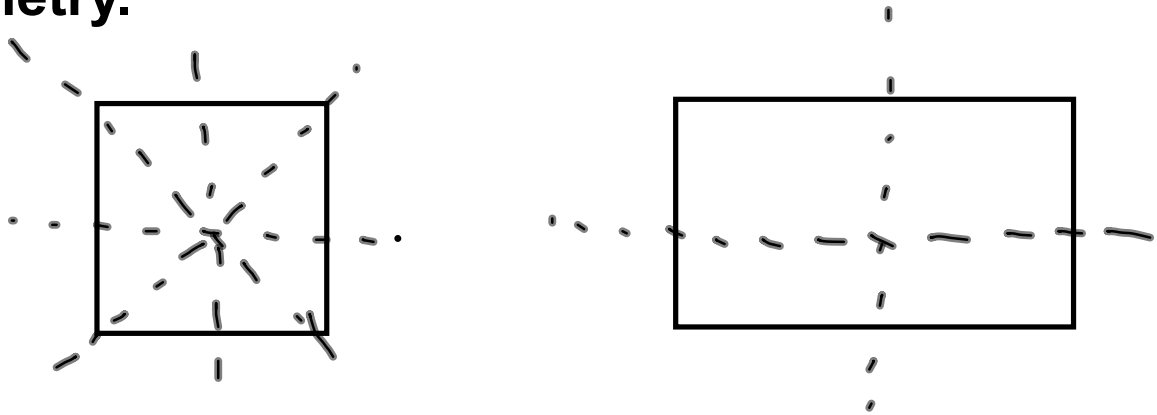
Drawing Line Symmetry

Use the description to draw a figure. If not possible, write *not possible*.

A hexagon with no lines of symmetry.



A quadrilateral with exactly two lines of symmetry.



Symmetry Application

Determine whether the entire word has line symmetry and whether it has rotational symmetry. Identify all lines of symmetry and angles of rotation that map the entire word onto itself.

HOOK

Line: 1
Rotation: 0

BIB

Line: 1
Rotation: 0

NOON

Line: 0
Rotation: 180°

NOON

Homework Assignment

Worksheet 9.6B