

Transformations on the Coordinate Plane

Vocabulary

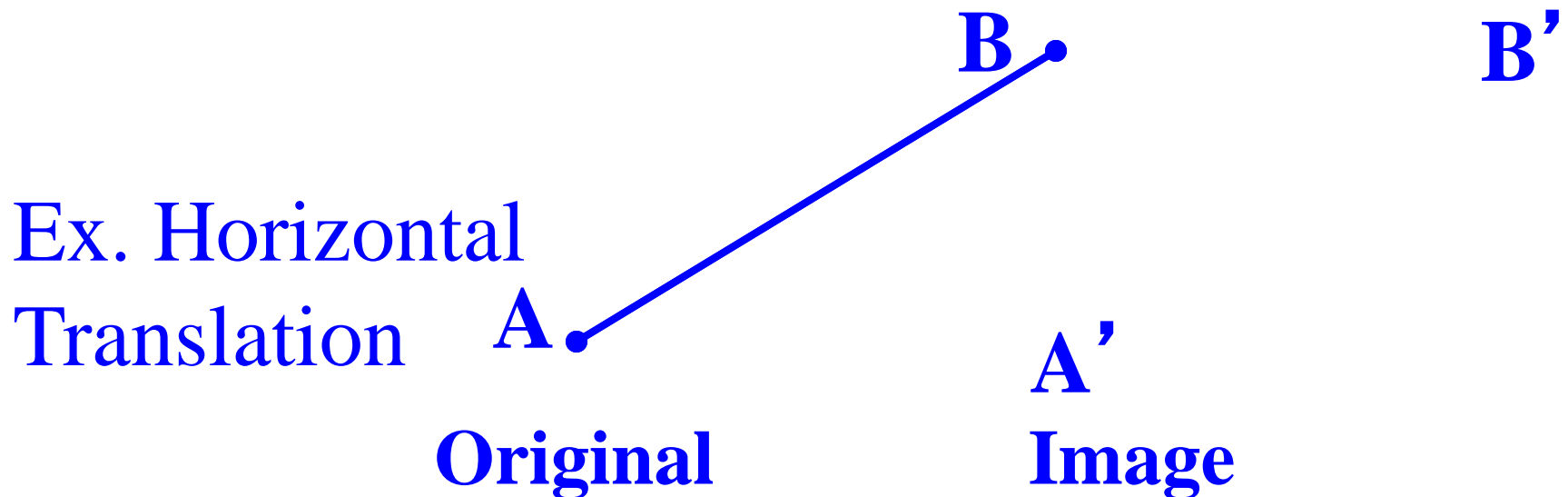


- Transformations: movements of geometric figures.
- Original: the position of the figure **before** the transformation.
- Image: the position of the figure **after** the transformation.

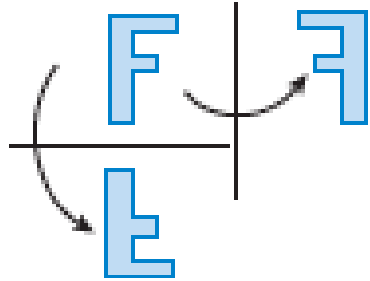
Terminology



- Image – final image after transformation
Labeled with “Prime”
- Original– image before transformation
Labeled with Capital Letters



Flip (Reflection)



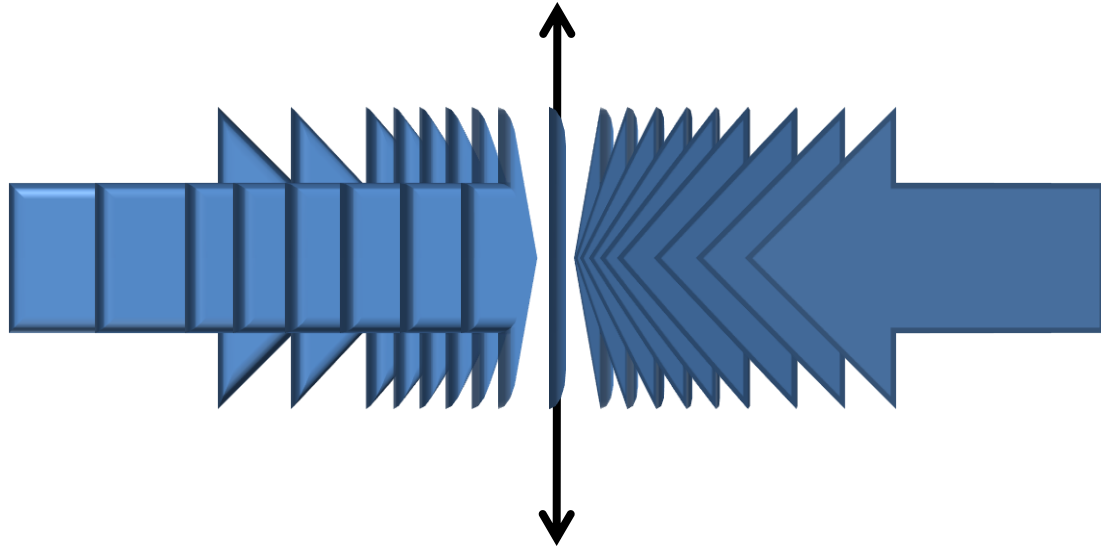
REFLECTION

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REFLECTION



A **reflection** is a transformation that *flips* a figure across a line.



A REFLECTION IS FLIPPED OVER A LINE.

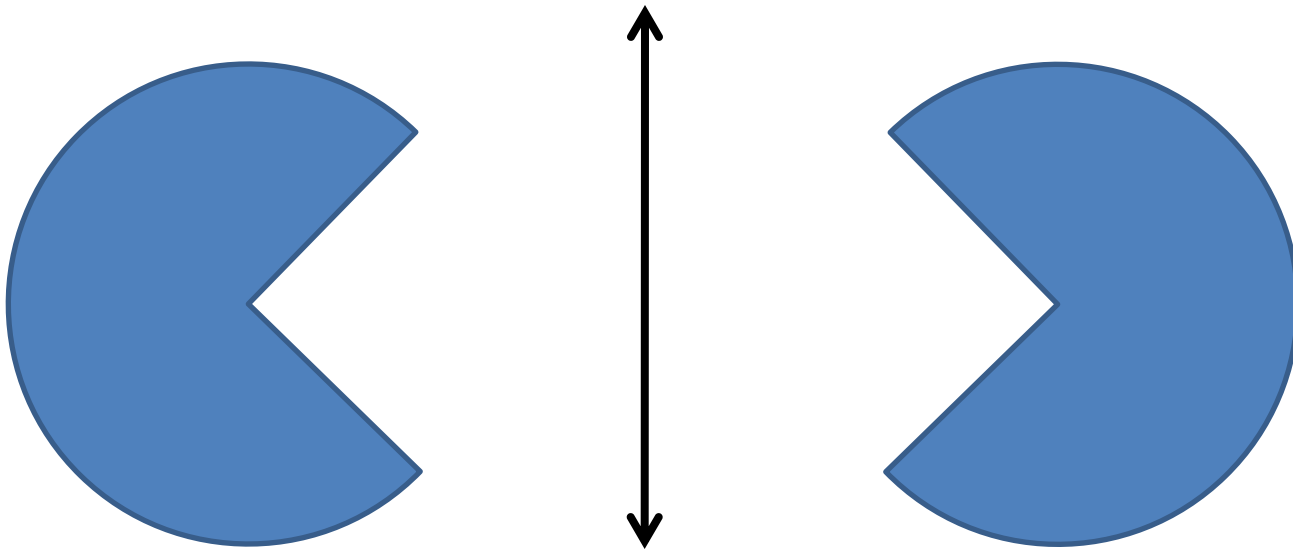
A REFLECTION IS FLIPPED OVER A LINE.

After
mirro

Remember, it is the same, but it
is backwards



e a

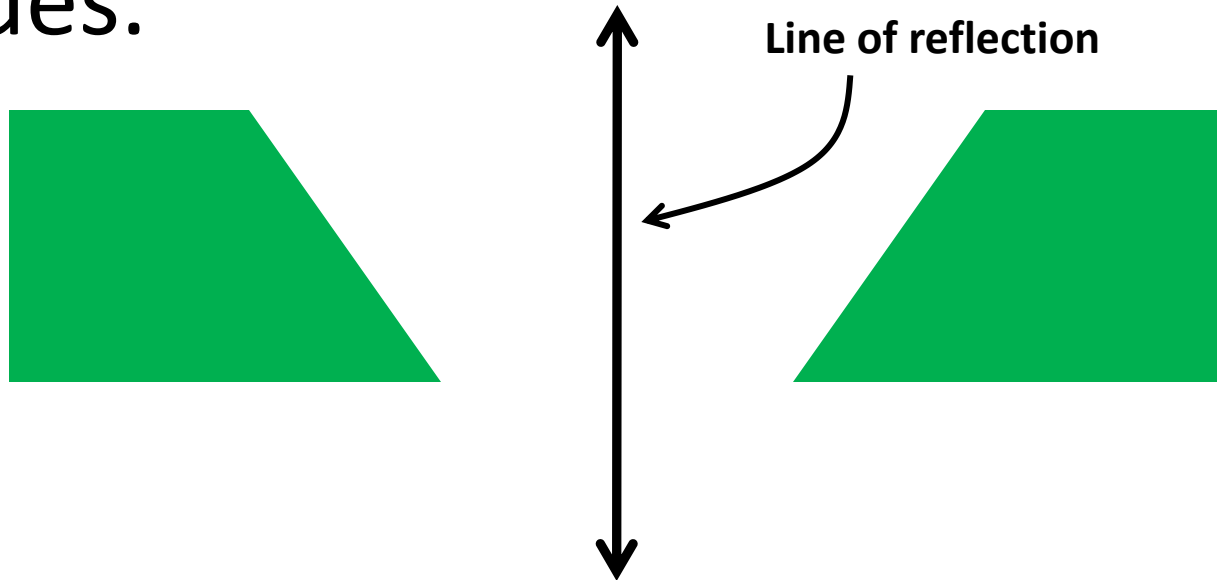


A REFLECTION IS FLIPPED OVER A LINE.

A REFLECTION IS FLIPPED OVER A LINE.

REFLECTION

The line of reflection is flipped to the same distance from the line of reflection on both sides.

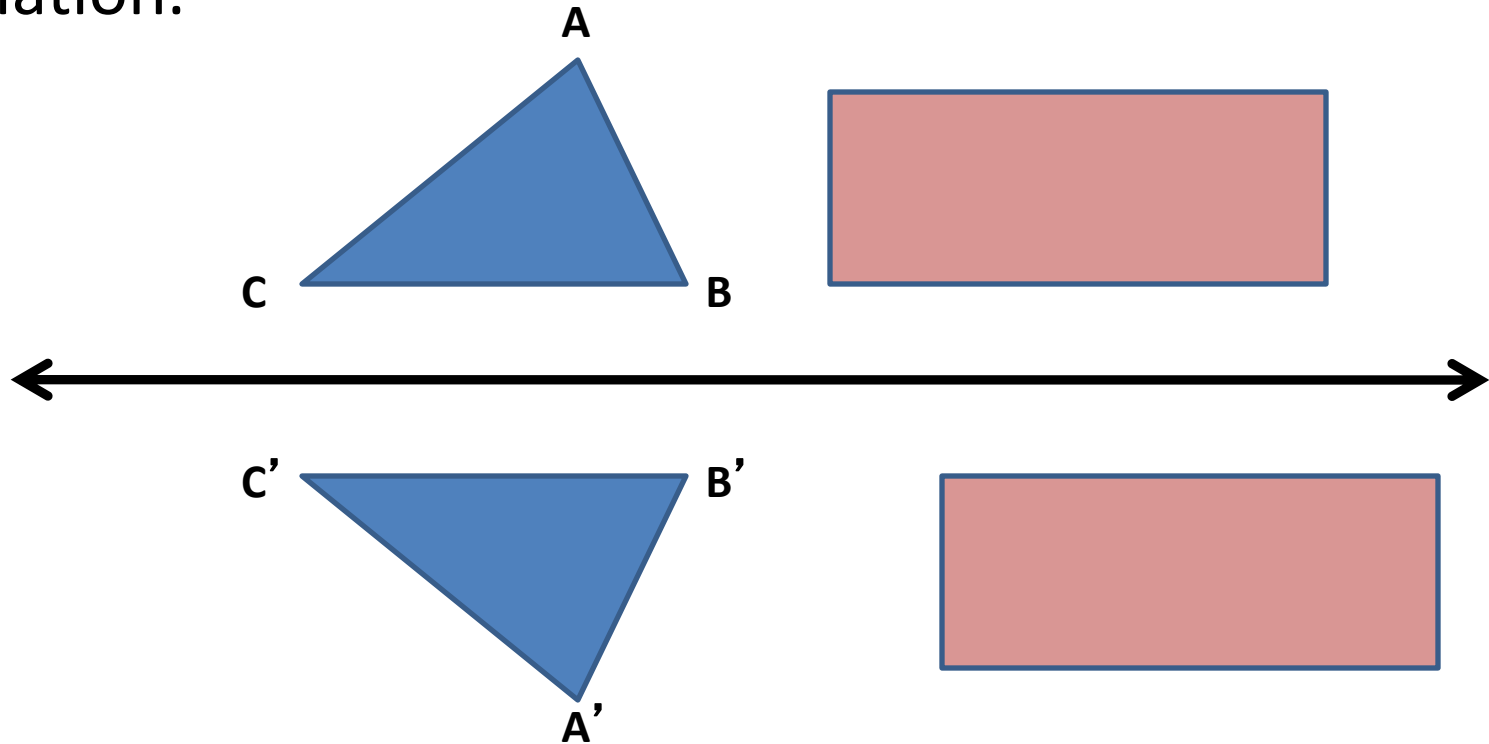


A REFLECTION IS FLIPPED OVER A LINE.

A REFLECTION IS FLIPPED OVER A LINE.

REFLECTION

Determine if each set of figures shows a reflection or a translation.

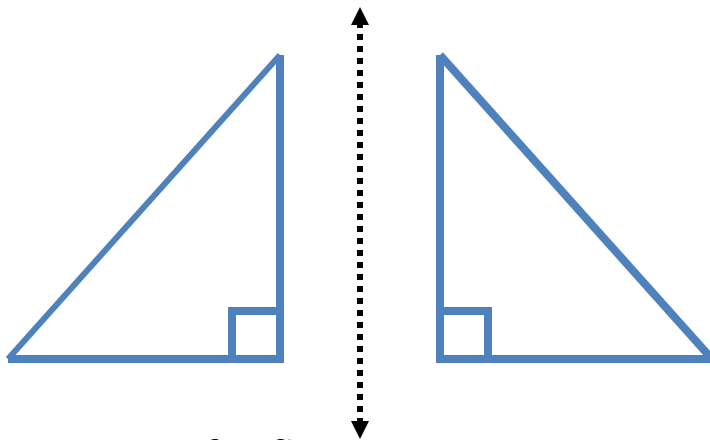


A REFLECTION IS FLIPPED OVER A LINE.

A REFLECTION IS FLIPPED OVER A LINE.



- Reflection- the figure is flipped over a line.



- Line of reflection
- Image congruent to the original
- Image different orientation of the original
- Image same distance from the line of reflection as the original

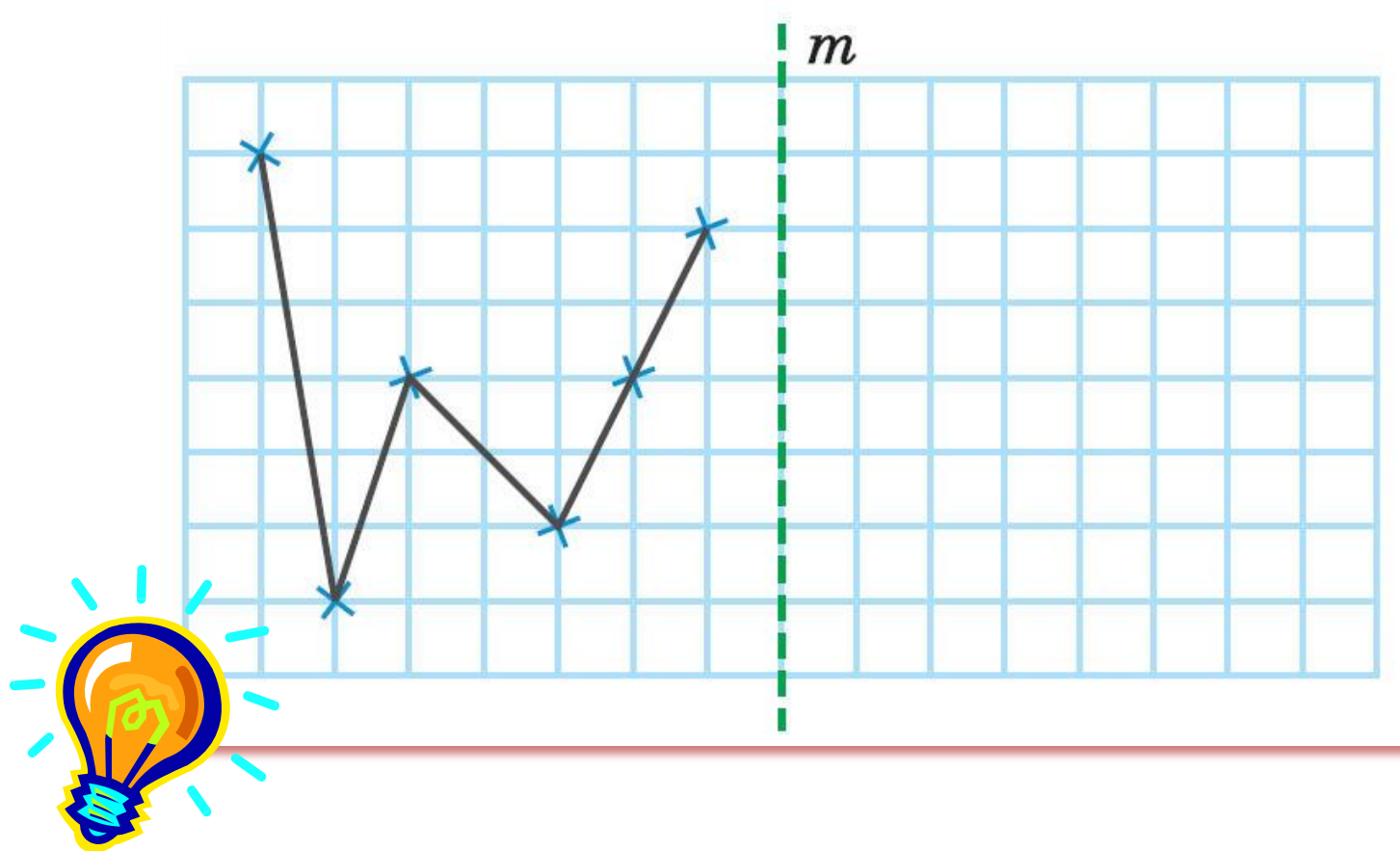
Reflection over the x-axis:

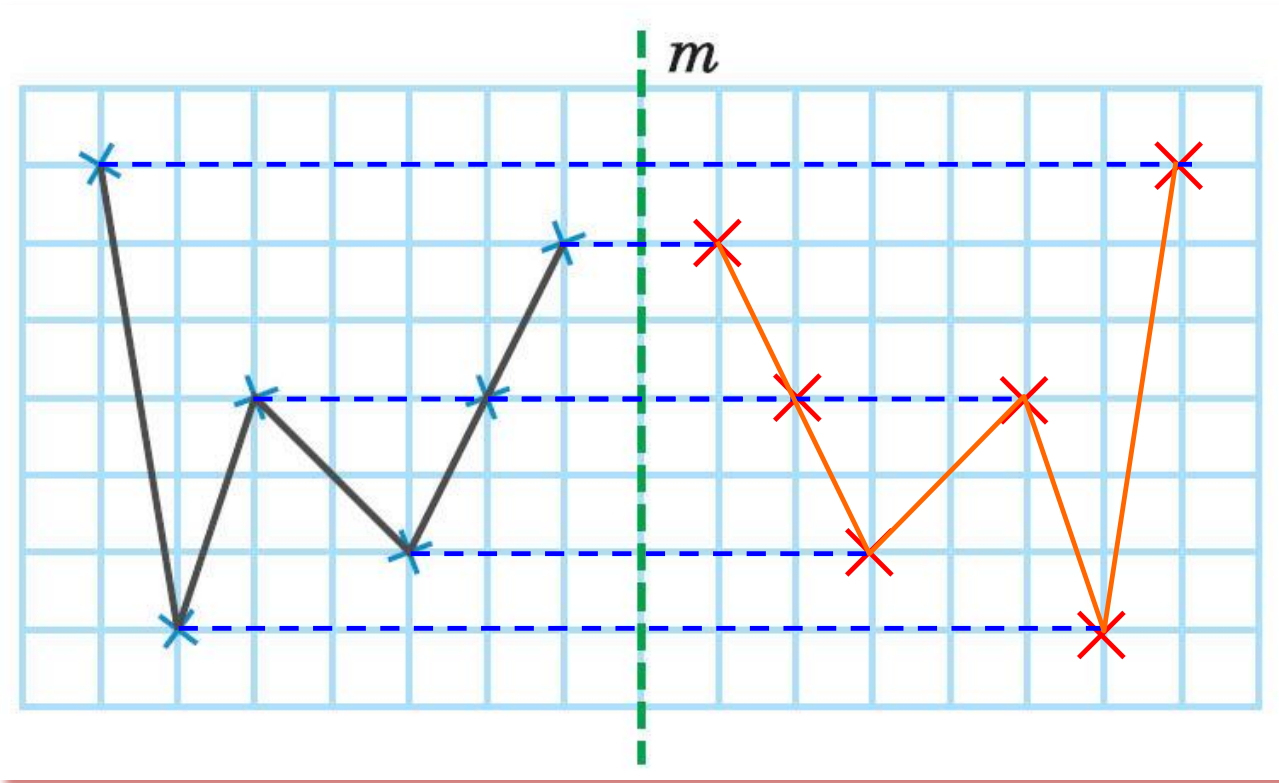
$$(x, y) \longrightarrow (x, -y)$$

Reflection over the y-axis:

$$(x, y) \longrightarrow (-x, y)$$

The line m on the graph paper below is an axis of reflection. Draw the image of reflection of the given figure







Ex. 1: A trapezoid has vertices $W(-1, 4)$
 $X(4, 4)$, $Y(4, 1)$, and $Z(-3, 1)$

a) A trapezoid is reflected over the y -axis. Find the coordinates of the image.

b) Graph the trapezoid $WXYZ$
and its image $W'X'Y'Z'$

