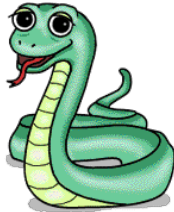


8th Grade  
2.3 Symmetry and Reflections

# REFLECTIONS

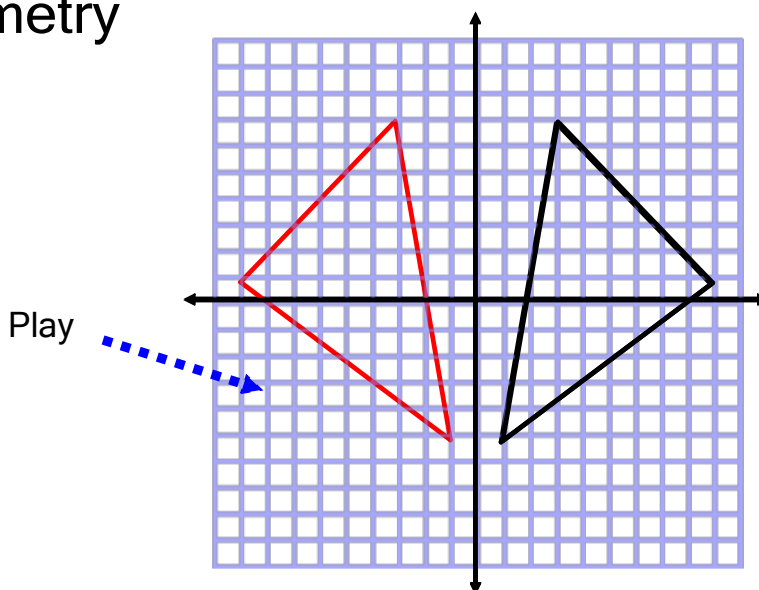


Also called a **FLIP**  
or "**Mirror Image**"



Objective: Identify transformations including translation, rotation, reflection, and dilation

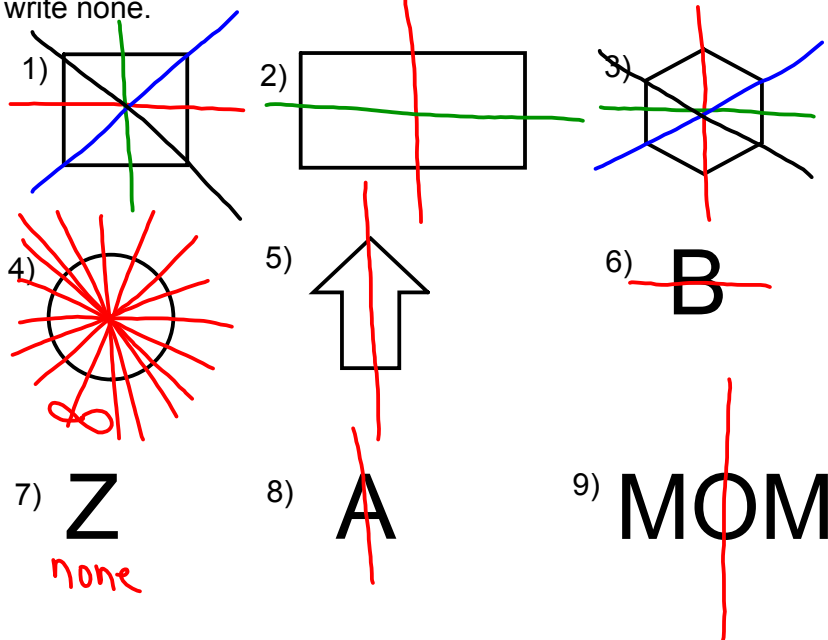
**Reflection** - Figure is flipped over a line of symmetry



Line Symmetry(Reflectional Symmetry)

A figure has line symmetry if a line can be drawn down the figure so that it divides the figure into mirror images.

Draw the line(s) of symmetry on each figure. If there are none, write none.

Line Reflection

(FLIP) A transformation that creates figures which are mirror images.

Rule for a reflection in the:

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

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

Give the coordinates of the image of each point after a reflection in axis indicated.

10)  $(5, 7)$  ; x-axis

$(5, -7)$

11)  $(3, 4)$  ; y-axis

$(-3, 4)$

12)  $(-8, -2)$  ; x-axis

$(-8, 2)$

13)  $(-5, -1)$  ; y-axis

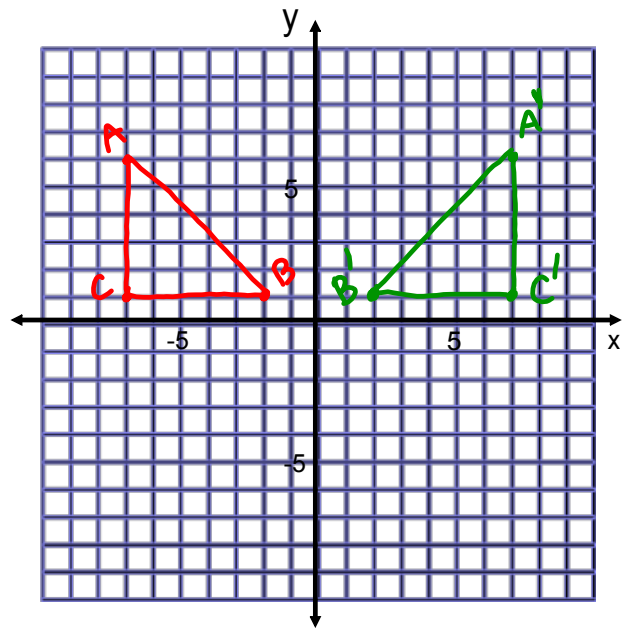
$(5, -1)$

- 14) (a) Graph triangle ABC with vertices  $A(-7, 6)$ ,  $B(-2, 1)$ , and  $C(-7, 1)$ .

(b) Graph the image of triangle ABC after a reflection in the y-axis.

(c) Give the coordinates of the image.

$$\begin{aligned} A' & (7, 6) \\ B' & (2, 1) \\ C' & (7, 1) \end{aligned}$$



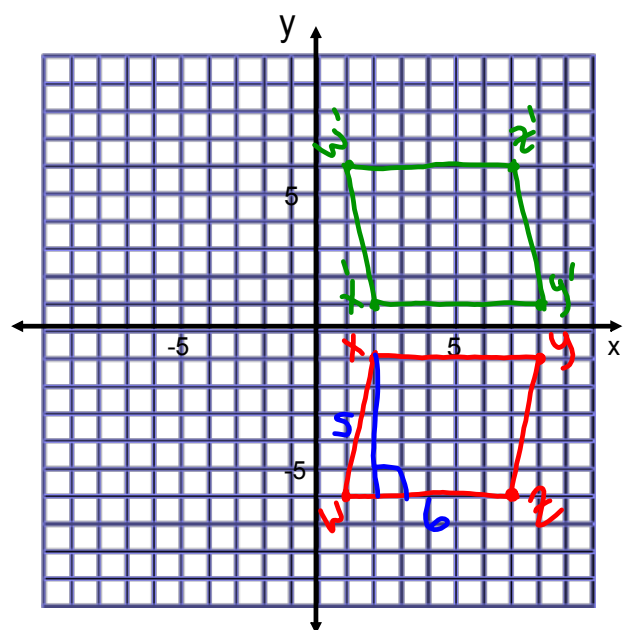
- 15)(a) Graph quadrilateral WXYZ with vertices  $W(1, -6)$ ,  $X(2, -1)$ ,  $Y(8, -1)$ , and  $Z(7, -6)$ .

(b) Identify the type of quadrilateral graphed in part a.  
*rhombus*

(c) Graph the image of WXYZ after a reflection in the x-axis.

(d) Find the area of WXYZ.

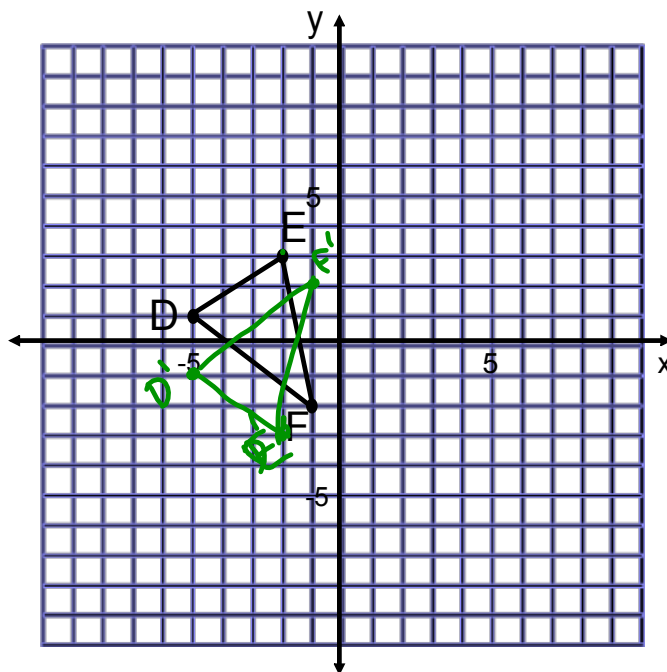
$$\begin{aligned} b \cdot h \\ 6 \cdot 5 & = 30 \text{ units}^2 \end{aligned}$$



16) (a) Graph the reflection of triangle DEF in the x-axis.

(b) Give the coordinates of the image.

$$D'(-5, -1)$$
$$E'(-2, -3)$$
$$F'(-1, 2)$$



# Homework

## 2 Worksheets