

Name: _____

Date: _____

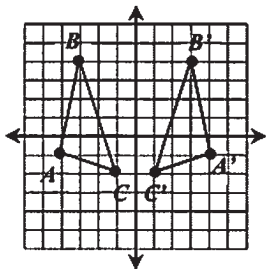
Topic: _____

Class: _____

Main Ideas/Questions

Notes/Examples

REFLECTION



- A FLIP over a line called the line of reflection.
- Each point its image are the same distance from the line of reflection.
- A reflection is also an example of a rigid motion.

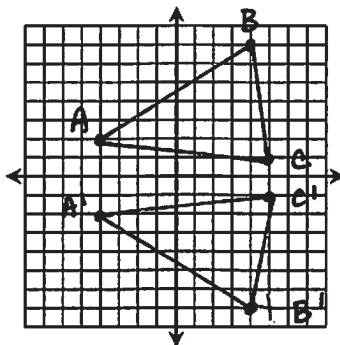
Common lines of reflection:

- > X - axis or y - axis
- > Vertical or horizontal lines in the form X = # or y = #
- > Diagonal lines, for example, y = X or y = -X

Reflecting in
**THE X-AXIS
AND Y-AXIS**

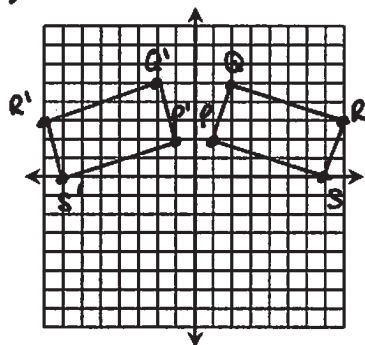
Graph and label each figure and its image under a reflection in the given line. Give the coordinates of the image.

1. Triangle ABC with vertices $A(-4, 2)$, $B(4, 7)$, and $C(5, 1)$: x -axis



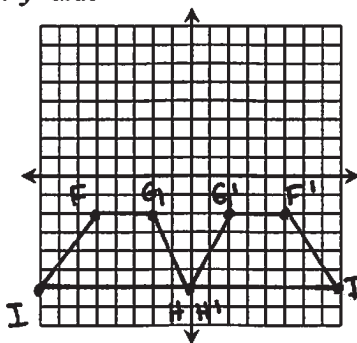
$A': (-4, -2)$ $C': (5, -1)$
 $B': (4, -7)$

2. Rectangle $PQRS$ with vertices $P(1, 2)$, $Q(2, 5)$, $R(8, 3)$, and $S(7, 0)$: y -axis



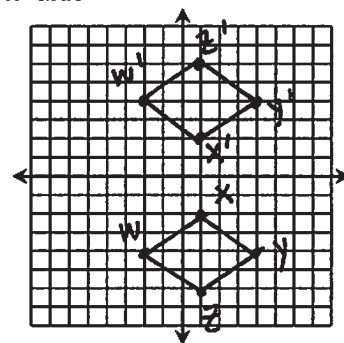
$P': (-1, 2)$ $R': (-8, 3)$
 $Q': (-2, 5)$ $S': (-7, 0)$

3. Trapezoid $FGHI$ with vertices $F(-5, -2)$, $G(-2, -2)$, $H(0, -6)$, and $I(-8, -6)$: y -axis



$F': (5, -2)$ $H': (0, -6)$
 $G': (2, -2)$ $I': (8, -6)$

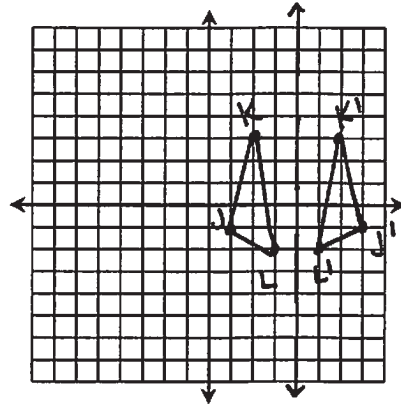
4. Rhombus $WXYZ$ with vertices $W(-2, -4)$, $X(1, -2)$, $Y(4, -4)$, and $Z(1, -6)$: x -axis



$W': (-2, 4)$ $Y': (4, 4)$
 $X': (1, 2)$ $Z': (1, 6)$

Reflecting in
**OTHER VERTICAL
AND HORIZONTAL
LINES**

5. Triangle JKL with vertices $J(1, -1)$, $K(2, 3)$, and $L(3, -2)$: $x = 4$

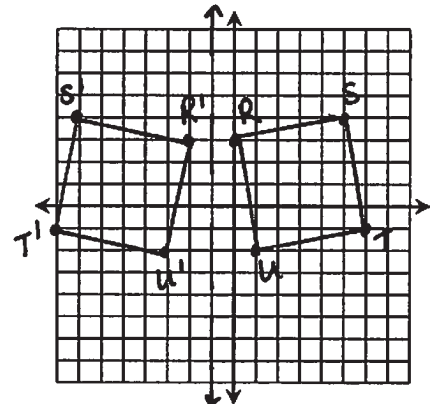


$J': (7, -1)$

$L': (5, -2)$

$K': (6, 3)$

6. Square $RSTU$ with vertices $R(0, 3)$, $S(5, 4)$, $T(6, -1)$, and $U(1, -2)$: $x = -1$



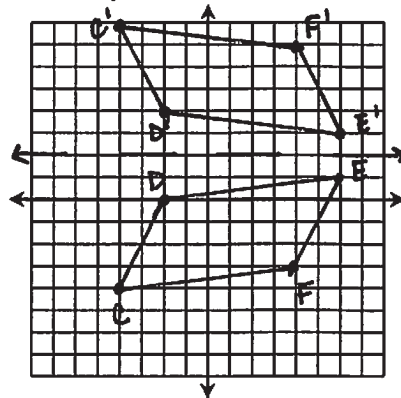
$R': (-2, 3)$

$T': (-8, -1)$

$S': (-7, 4)$

$U': (-3, -2)$

7. Parallelogram $CDEF$ with vertices $C(-4, -4)$, $D(-2, 0)$, $E(6, 1)$, and $F(4, -3)$: $y = 2$



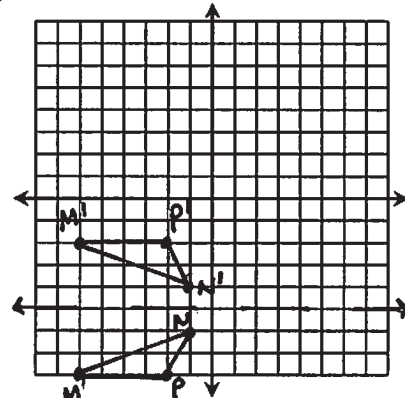
$C': (-4, 8)$

$E': (6, 3)$

$D': (-2, 4)$

$F': (4, 7)$

8. Triangle MNP with vertices $M(-6, -8)$, $N(-1, -6)$, and $P(-2, -8)$: $y = -5$



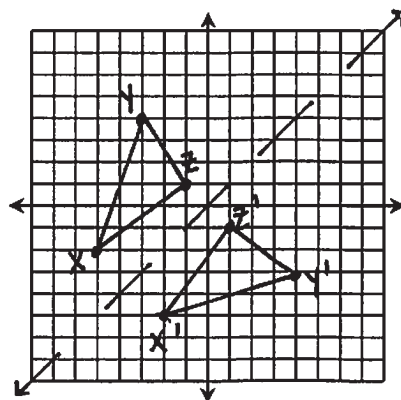
$M': (-6, -2)$

$P': (-2, -2)$

$N': (-1, -4)$

Reflecting in
**THE LINES $Y = X$
AND $Y = -X$**

9. Triangle XYZ with vertices $X(-5, -2)$, $Y(-3, 4)$, and $Z(-1, 1)$: $y = x$

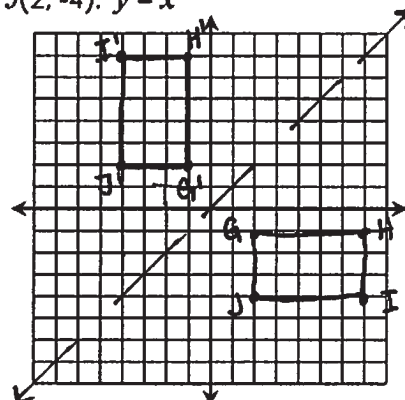


$X': (-2, -5)$

$Z': (1, -1)$

$Y': (4, -3)$

10. Rectangle $GHIJ$ with vertices $G(2, -1)$, $H(7, -1)$, $I(7, -4)$, and $J(2, -4)$: $y = x$



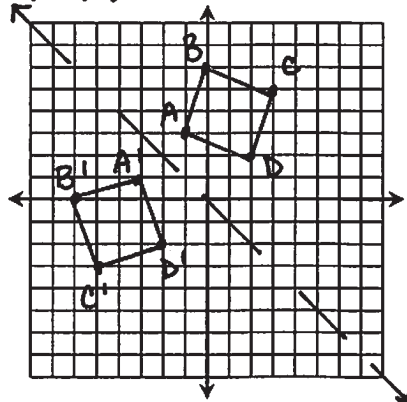
$G': (-1, 2)$

$I': (-4, 7)$

$H': (-1, 7)$

$J': (-4, 2)$

11. Square $ABCD$ with vertices $A(-1, 3)$, $B(0, 6)$, $C(3, 5)$, and $D(2, 2)$: $y = -x$



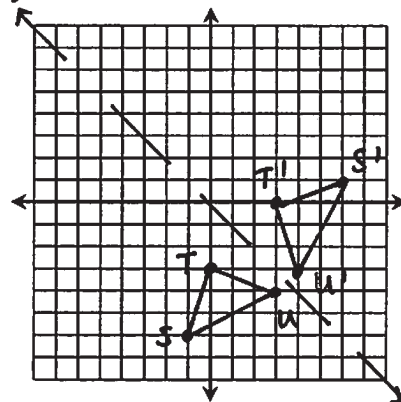
$A': (-3, 1)$

$C': (-5, -3)$

$B': (-6, 0)$

$D': (-2, -2)$

12. Triangle STU with vertices $S(-1, -6)$, $T(0, -3)$, and $U(3, -4)$: $y = -x$



$S': (6, 1)$

$U': (4, -3)$

$T': (3, 0)$

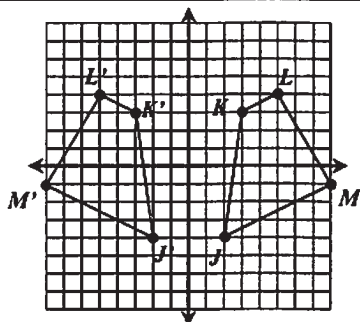
IDENTIFYING

the Line of Reflection

Hint: It's sometimes helpful to find the midpoint of the corresponding points!

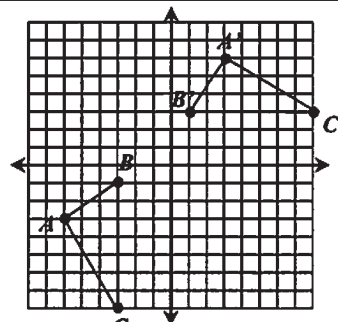
Identify the line of reflection.

13.



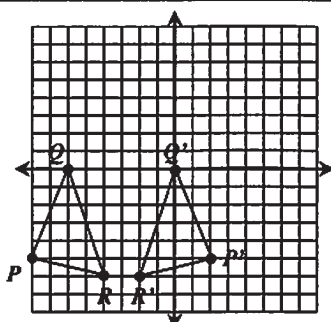
y -axis

14.



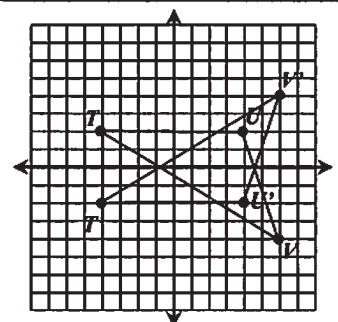
$y = -x$

15.



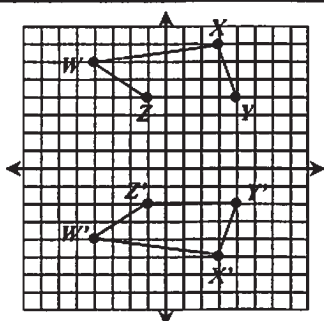
$x = -3$

16.



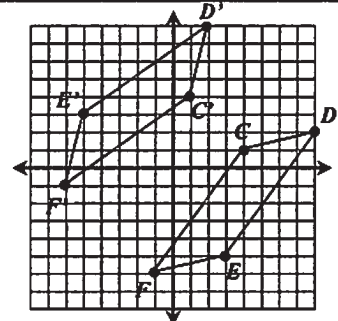
x -axis

17.



$y = 1$

18.



$y = x$