

**Math 2 – Honors**  
**Unit 1 – Geometric Transformations**  
**After Quiz Worksheet**

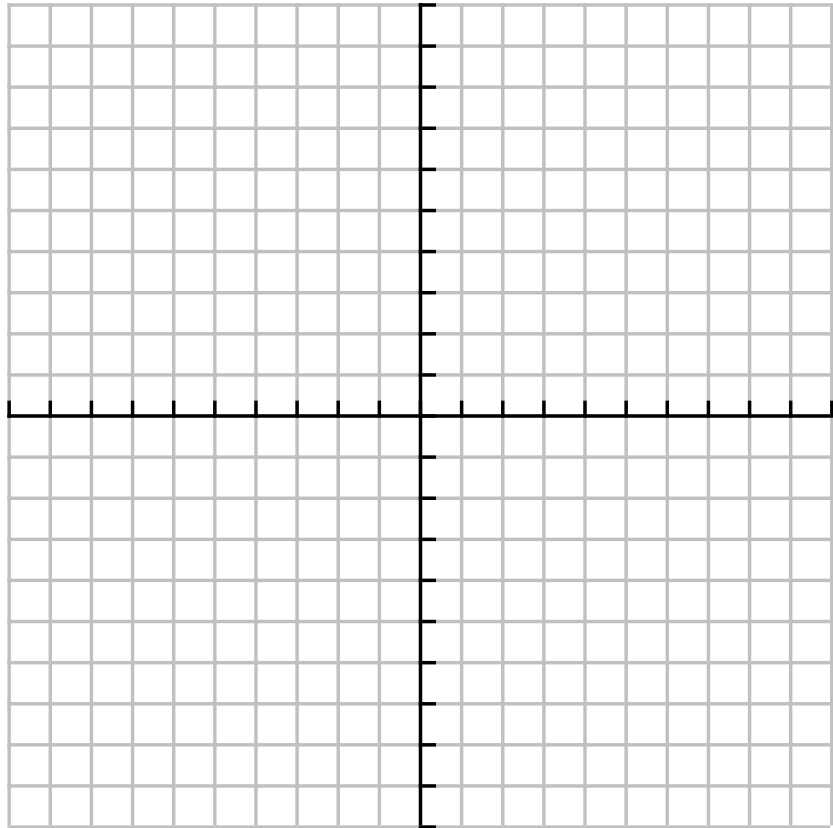
Name \_\_\_\_\_  
 Date \_\_\_\_\_ Pd \_\_\_\_\_

Find the coordinates of the image under each transformation. **Write the coordinates of the image in a matrix beside the problem!** On the coordinate plane below, **graph and then shade in color each quadrilateral** to reveal a word!!

Example:  $(3, 5)$   $(7, -2)$   $(0, 1)$  written as

matrix:  $\begin{bmatrix} 3 & 7 & 0 \\ 5 & -2 & 1 \end{bmatrix}$

**x values become top row and y values become bottom row.**



1. A translation 1 unit left and 3 units up

$$\begin{matrix} x & [ & 0 & 1 & 3 & 2 & ] \\ y & [ & 4 & 4 & 0 & 0 & ] \end{matrix}$$

3. A rotation of  $90^\circ$  counter-clockwise

$$\begin{matrix} x & [ & 4 & 5 & 5 & 4 & ] \\ y & [ & -1 & -1 & 2 & 2 & ] \end{matrix}$$

5. A reflection in the  $x - axis$

$$\begin{matrix} x & [ & 7 & 8 & 8 & 7 & ] \\ y & [ & -4 & -4 & -5 & -5 & ] \end{matrix}$$

7. A reflection in the  $y - axis$

$$\begin{matrix} x & [ & 5 & 4 & 4 & 5 & ] \\ y & [ & 3 & 3 & 7 & 7 & ] \end{matrix}$$

9. A translation 10 units left and 1 unit down

$$\begin{matrix} x & [ & 1 & 2 & 4 & 3 & ] \\ y & [ & 8 & 8 & 6 & 6 & ] \end{matrix}$$

11. A reflection in  $y = x$

$$\begin{matrix} x & [ & 6 & 6 & 3 & 3 & ] \\ y & [ & 3 & 4 & 4 & 3 & ] \end{matrix}$$

2. A reflection in the  $x - axis$

$$\begin{matrix} x & [ & -2 & -3 & -1 & 0 & ] \\ y & [ & -3 & -3 & -7 & -7 & ] \end{matrix}$$

4. A rotation of  $360^\circ$  clockwise

$$\begin{matrix} x & [ & 6 & 7 & 7 & 6 & ] \\ y & [ & 3 & 3 & 7 & 7 & ] \end{matrix}$$

6. A rotation of  $180^\circ$  clockwise

$$\begin{matrix} x & [ & -8 & -9 & -9 & -8 & ] \\ y & [ & -3 & -3 & -7 & -7 & ] \end{matrix}$$

8. A rotation of  $270^\circ$  counter-clockwise

$$\begin{matrix} x & [ & -5 & -5 & -7 & -7 & ] \\ y & [ & -7 & -6 & -4 & -5 & ] \end{matrix}$$

10. A translation 3 units right and 4 units up

$$\begin{matrix} x & [ & -1 & 2 & 2 & -1 & ] \\ y & [ & 3 & 3 & 2 & 2 & ] \end{matrix}$$

12. A reflection in  $y = -x$

$$\begin{matrix} x & [ & -3 & -3 & -7 & -7 & ] \\ y & [ & 9 & 8 & 8 & 9 & ] \end{matrix}$$