Name: $\qquad$ Date: $\qquad$
Practice \#2 - Reflections
Class: $\qquad$

1. Find the reflection of the triangle $H O T$ over the $x$-axis.

Write the coordinates of $H^{\prime} O^{\prime} T^{\prime}$. Is the image similar or congruent? How do you know?

2. Find the reflection of the quadrilateral $W X Y Z$ across the dotted line.

What is the equation of the dotted line?

Label the image $W^{\prime} X^{\prime} Y^{\prime} Z^{\prime}$.

3. The table below shows the coordinates of triangle $P Q R$.

| Triangle <br> $\boldsymbol{P Q R}$ |  | Triangle <br> $\boldsymbol{P} Q^{\prime} \boldsymbol{R}$, |  |
| :--- | :--- | :--- | :--- |
| $\boldsymbol{P}$ | $(-3,2)$ | $\boldsymbol{P}$ |  |
| $\boldsymbol{Q}$ | $(-3,6)$ | $\boldsymbol{Q}^{\prime}$ |  |
| $\boldsymbol{R}$ | $(-7,7)$ | $\boldsymbol{R}^{\prime}$ |  |

## Part A

Fill in the table above for the coordinates of $P^{\prime}, Q^{\prime}$, and $R^{\prime}$ after a reflection over the $y$-axis.

## Part B

On the grid below, draw triangle PQR and triangle $P^{\prime} Q^{\prime} R^{\prime}$.


Part C
On the lines below, explain how you determined the location of $R^{\prime}$.
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4. Triangle $X Y Z$ has vertices $X(2,1), Y(6,1)$, and $Z(4,4)$.

On the graph, draw the image of triangle $X Y Z$ after a translation two to the left. Label the image $X^{\prime} Y^{\prime} Z^{\prime}$


Now create triangle $X^{\prime \prime} Y^{\prime \prime} Z^{\prime \prime}$ by reflecting triangle $X^{\prime} Y^{\prime} Z^{\prime}$ over the $x$-axis. What will be the coordinates of triangle $X^{\prime \prime} Y$ '" $Z$ " ? Is the new image similar or congruent?
5. Describe a reflection that would move shape 1 to match shape 2 .
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6. Refer to the grid below:

a) Describe how you could move shape 1 to exactly match shape 2 by using one translation and one reflection.
b) Are there other sequences of transformations that would move shape 1 to exactly match shape 2 ? If so, describe the steps you would perform.

