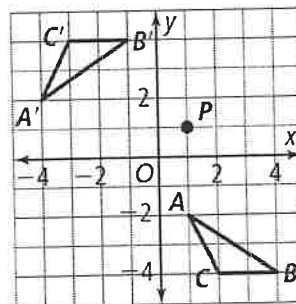


Name \_\_\_\_\_

### 3-4 Additional Practice

#### Classification of Rigid Motions

For Exercises 1–5, use the diagram.



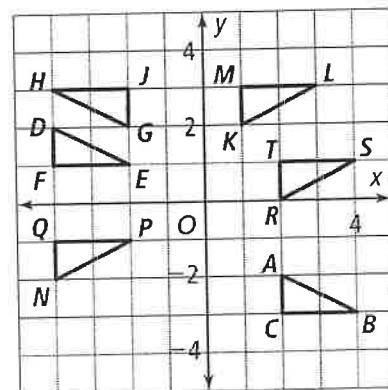
1. What composition of two rigid motions maps  $\triangle ABC$  to  $\triangle A'B'C'$ ?

$T_{\langle -3, 0 \rangle} \circ R_{\text{x-axis}}$

For Exercises 2–5, find the coordinates of  $P'$  under each transformation. Suppose the equation of line  $m$  is  $y = 2$  and the equation of line  $n$  is  $x = -1$ .

2.  $T_{\langle -2, 0 \rangle} \circ R_m$   $(-1, 3)$
3.  $T_{\langle 0, -5 \rangle} \circ R_n$   $(-3, -4)$
4.  $T_{\langle 0, 2 \rangle} \circ R_{y\text{-axis}}$   $(3, -1)$
5.  $T_{\langle 3, 0 \rangle} \circ R_{x\text{-axis}}$   $(4, -1)$

For Exercises 6–12, describe the rigid motion that produces each image.



6.  $\triangle ABC \rightarrow \triangle DEF$   $T_{\langle -2, 4 \rangle}$
7.  $\triangle ABC \rightarrow \triangle GHJ$   $R_{180^\circ}$
8.  $\triangle ABC \rightarrow \triangle KLM$   $T_{\langle -1, 0 \rangle} \circ R_{\text{x-axis}}$
9.  $\triangle ABC \rightarrow \triangle NPQ$   $T_{\langle -2, 0 \rangle} \circ R_{y=2}$
10.  $\triangle ABC \rightarrow \triangle RST$   $R_{y=-1}$
11.  $\triangle DEF \rightarrow \triangle GHJ$   $R_{180^\circ} \langle -3, 2 \rangle$
12.  $\triangle GHJ \rightarrow \triangle KLM$   $R_{x=0.5}$

13. Understand Define the term glide reflection.

reflection across a line followed by a Translation

14. Apply The series of footprints can be described as a series of glide reflections. The composition of two identical glide reflections, for example, from the first step to the third, is equivalent to what rigid motion?



Translation with twice the displacement of the glide reflection,