

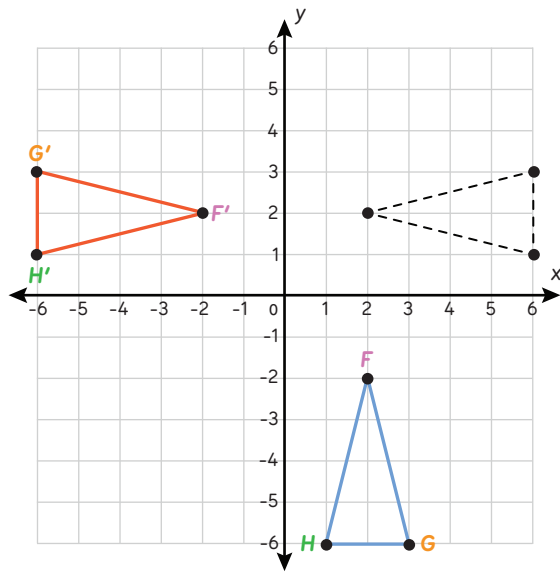
# Sequences of Congruence Transformations



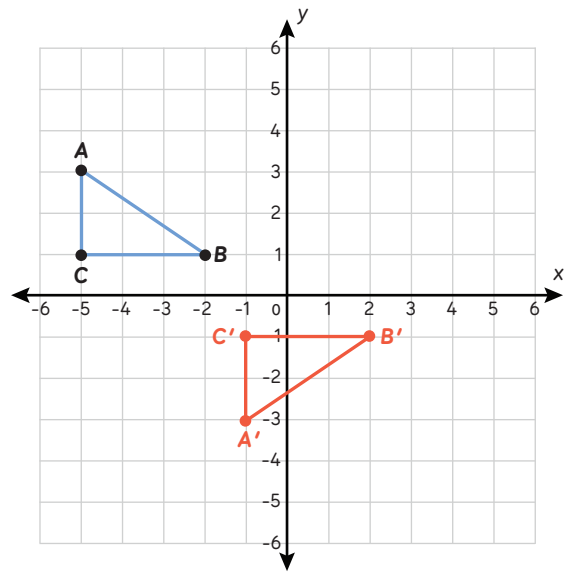
Translations, reflections, and rotations are **congruence transformations**. If a figure goes through a sequence of congruence transformations, the resulting figure and the original figure are congruent.

**Try it!** Graph each transformed figure and label its vertices. The first problem has been done for you.

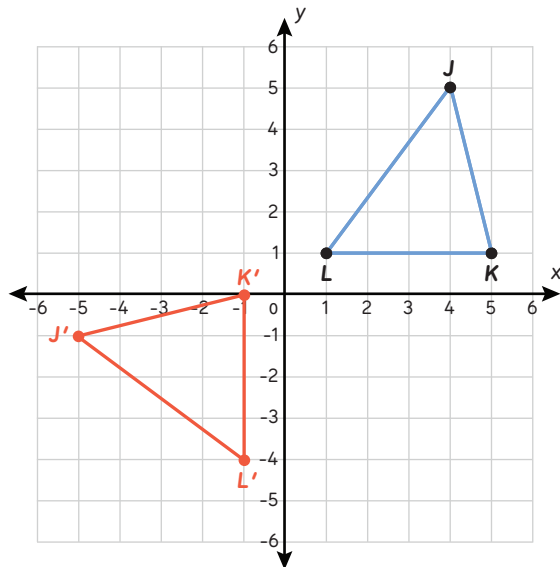
Graph the image of  $\triangle FGH$  after a rotation  $90^\circ$  counterclockwise around the origin and a reflection over the  $y$ -axis.



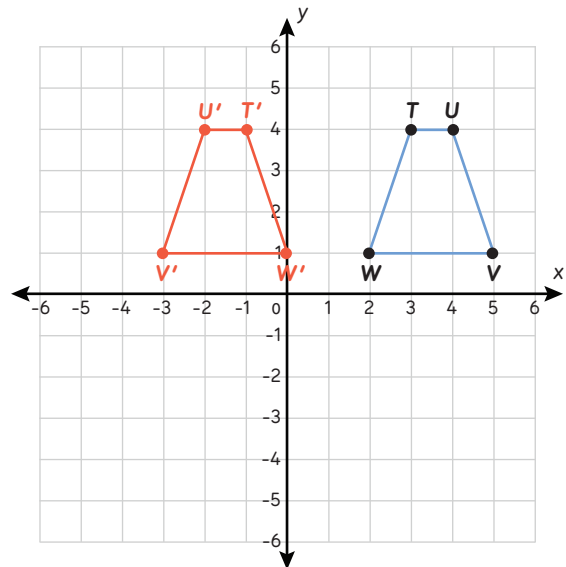
Graph the image of  $\triangle ABC$  after a reflection over the  $x$ -axis and a translation 4 units right.



Graph the image of  $\triangle JKL$  after a rotation  $90^\circ$  counterclockwise around the origin and a translation 5 units down.



Graph the image of trapezoid  $TUVW$  after a translation 2 units left and a reflection over the  $y$ -axis.

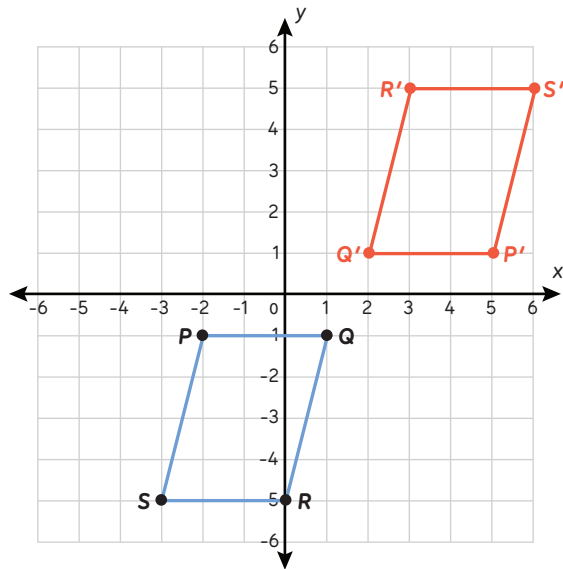


# Sequences of Congruence Transformations

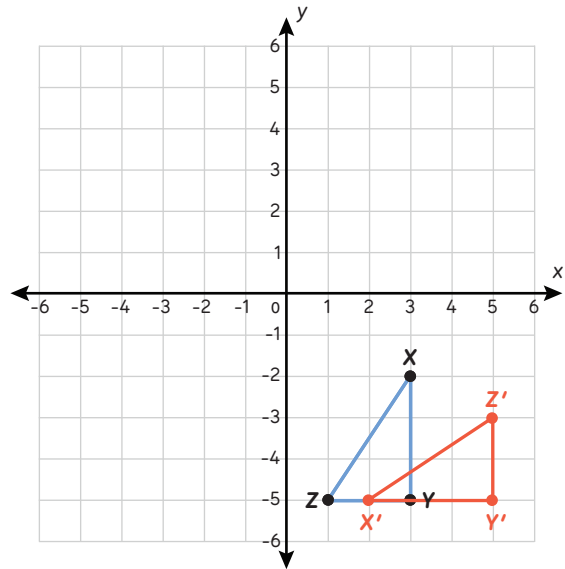


**Keep going!** Graph each transformed figure and label its vertices.

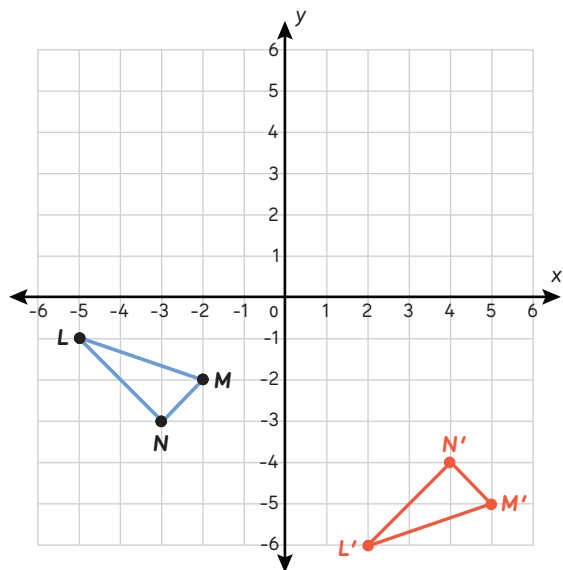
Graph the image of parallelogram  $PQRS$  after a translation 3 units left and a rotation  $180^\circ$  counterclockwise around the origin.



Graph the image of  $\triangle XYZ$  after a reflection over the line  $x = -1$  and a rotation  $90^\circ$  counterclockwise around the origin.



Graph the image of  $\triangle LMN$  after a translation 3 units up and 7 units right and a reflection over the line  $y = -2$ .



Graph the image of trapezoid  $BCDE$  after a rotation  $270^\circ$  counterclockwise around the origin and a translation 2 units up and 4 units right.

