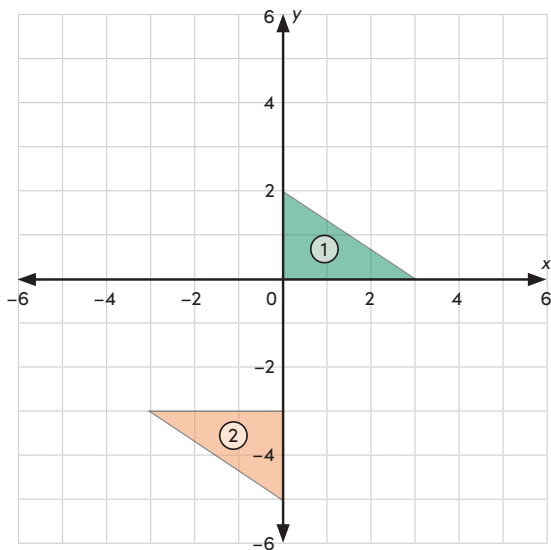


Identify Congruent Figures Using Transformations

Congruent figures have the same size and the same shape. If two figures are congruent, you can map one figure onto the other using one or more of the following congruence transformations: **translations, reflections, and rotations.**

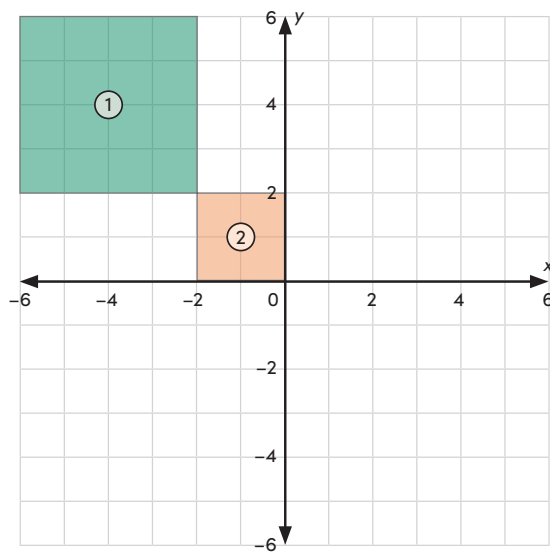
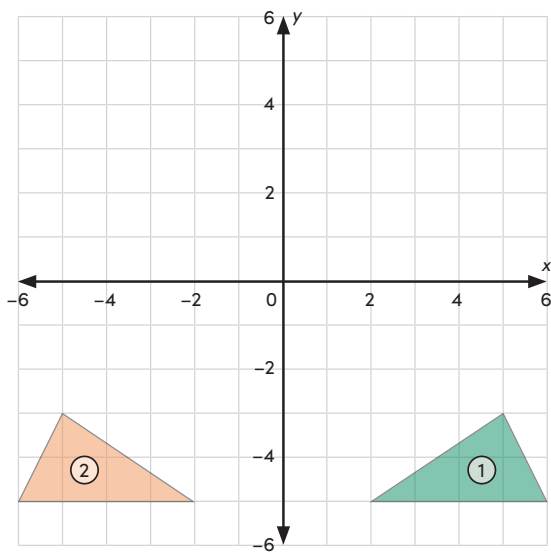


For example, figure 1 and figure 2 are congruent.

Figure 1 can be mapped onto figure 2 by a rotation 180° counterclockwise around the origin and a translation 3 units down.



Try it! Determine if the figures on each coordinate plane are congruent or not congruent. Write your answer below, and explain your reasoning. If the figures are congruent, describe congruence transformations that map figure 1 onto figure 2. **Explanations may vary.**

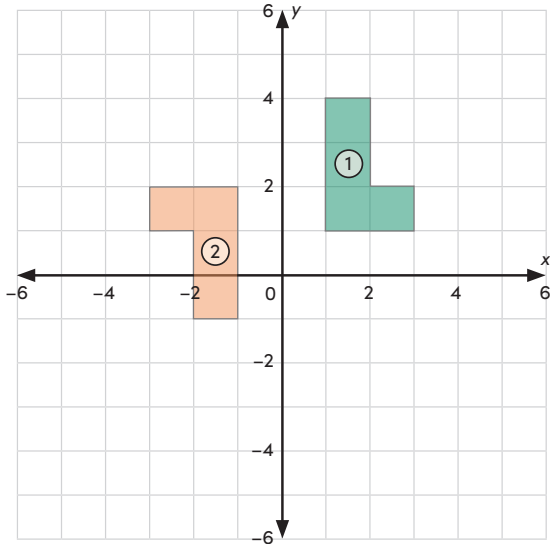


The figures are congruent. Figure 1 can be mapped onto figure 2 by a reflection over the y-axis.

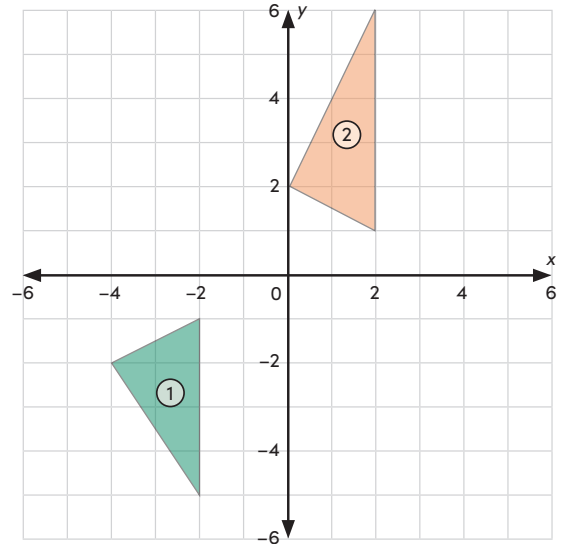
The figures are not congruent. Figure 1 cannot be mapped onto figure 2 using congruence transformations.

Identify Congruent Figures Using Transformations

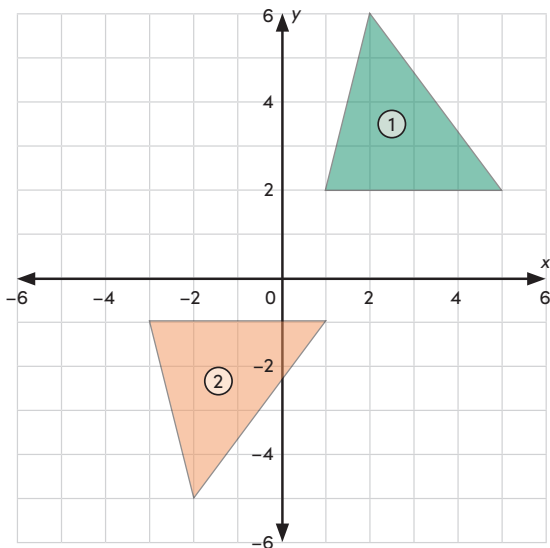
Keep going! Determine if the figures on each coordinate plane are congruent or not congruent. Write your answer below, and explain your reasoning. If the figures are congruent, describe congruence transformations that map figure 1 onto figure 2. **Explanations may vary.**



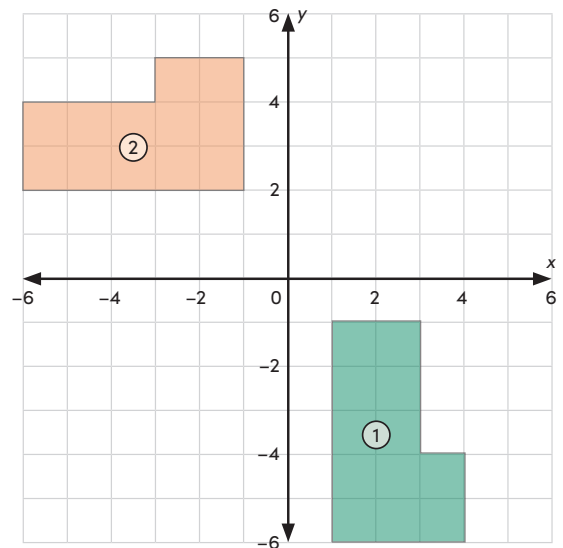
The figures are congruent. Figure 1 can be mapped onto figure 2 by a rotation 180° counterclockwise around the origin and a translation 3 units up.



The figures are not congruent. Figure 1 cannot be mapped onto figure 2 using congruence transformations.



The figures are congruent. Figure 1 can be mapped onto figure 2 by a translation 1 unit down and 4 units to the left and a reflection over the x-axis.



The figures are congruent. Figure 1 can be mapped onto figure 2 by a rotation 90° counterclockwise around the origin and a translation 1 unit up and 7 units to the left.