Assignment

LESSON 3: From Here to There

Write

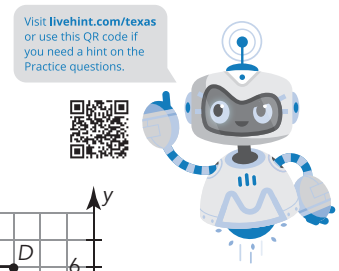
Explain how to use transformations to determine if figures are congruent or similar.

Remember

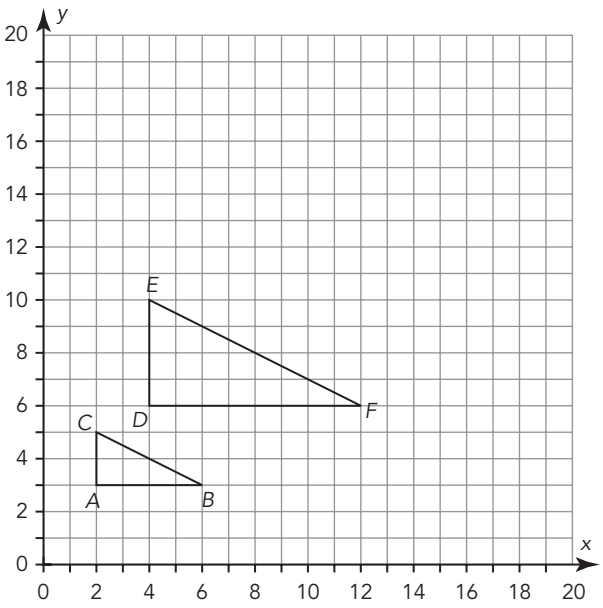
Images created from the same pre-image are always similar figures.

Practice

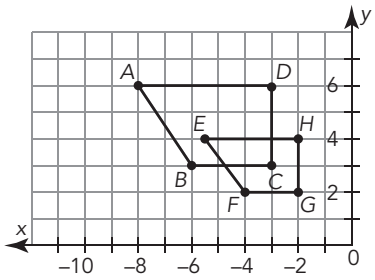
Verify that the two figures are similar by describing a dilation that maps one figure onto the other. Be sure to include the scale factor.



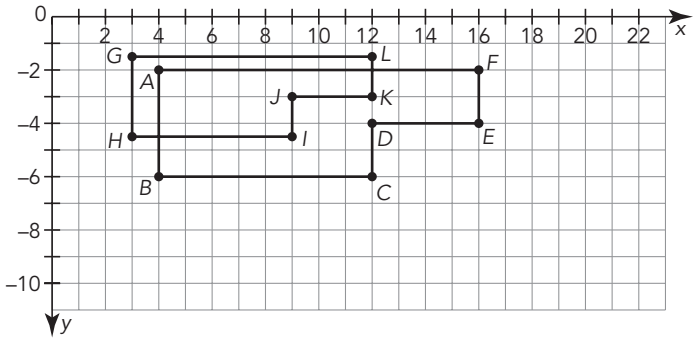
1.



2.

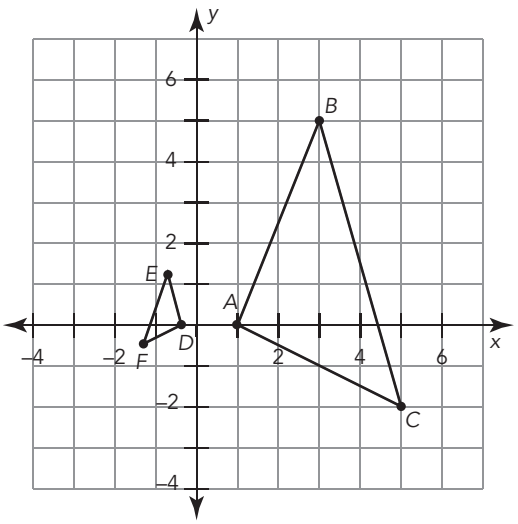


3.

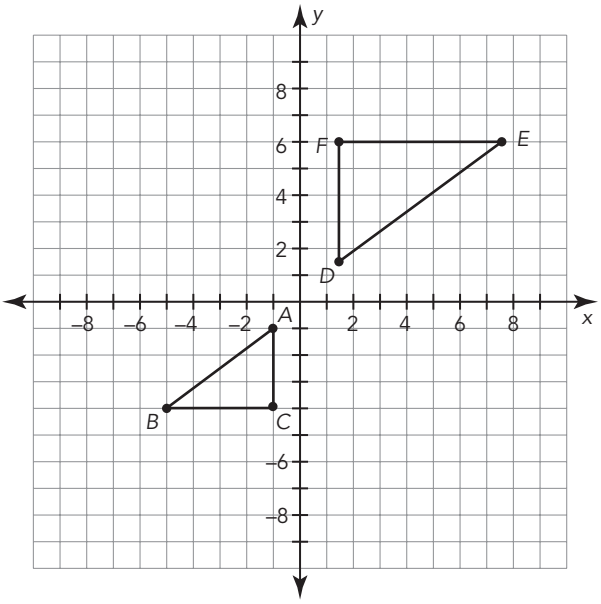


Verify that the figures are similar by describing a sequence of transformations that maps $\triangle ABC$ onto $\triangle DEF$. Be as specific as possible.

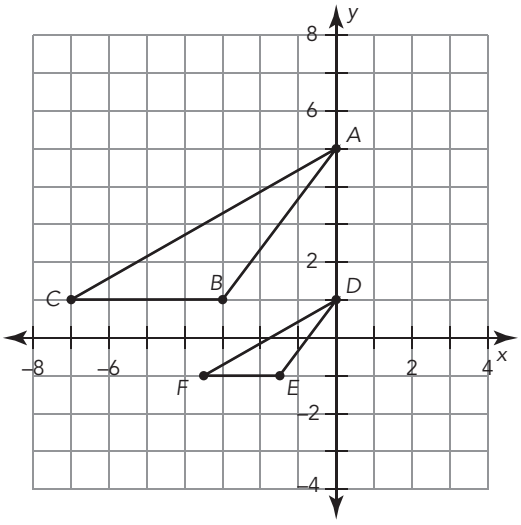
4.



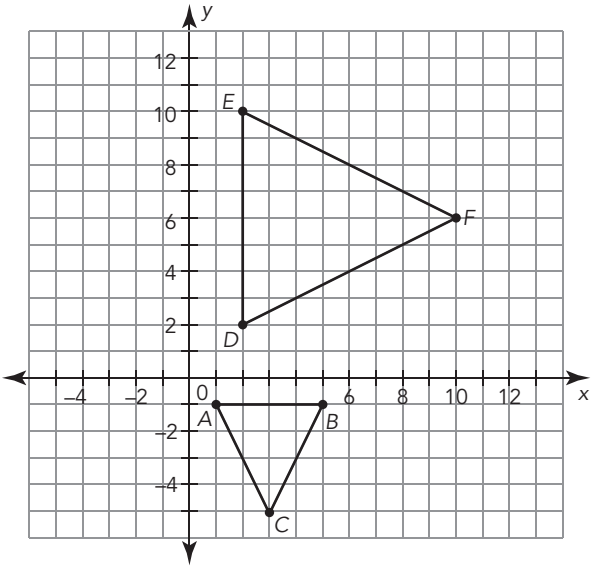
5.



6.



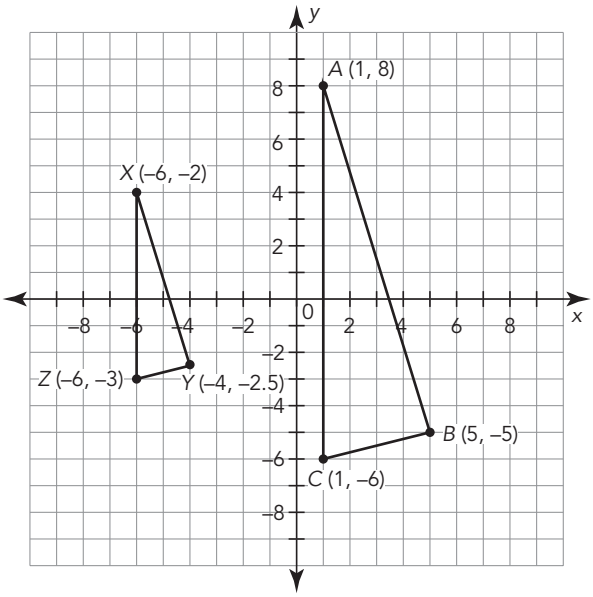
7.



Stretch

Triangle *XYZ* is the image after a dilation of Triangle *ABC*.

1. Determine the scale factor.
2. Determine the center of dilation.
3. Explain how you could verify that the ratio of corresponding sides is constant.



Review

1. Give the coordinates of $\triangle A'B'C'$ after a transformation of $\triangle ABC$ with the coordinates A (6, −3), B (9, 5), and C (5, 6). Use the origin as the center of dilation or rotation, as needed.
   a. Dilate $\triangle ABC$ by a scale factor of $\frac{1}{3}$.
   b. Dilate $\triangle ABC$ by a scale factor of 4.
   c. Rotate $\triangle ABC$ 180 degrees.
   d. Reflect $\triangle ABC$ across the x-axis.
2. Identify the constant of proportionality.
   a. Eight candy bars cost $6.00. Calculate the cost per candy bar.
   b. In the equation $y = 4x + 7$, x is the number of items and y is the total cost. What is the unit rate? Include units in your response.