Name _____ Date _____

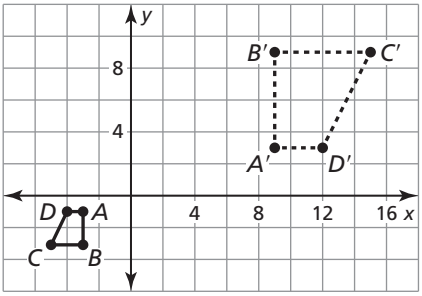
8.2 Practice B

In Exercises 1 and 2, graph $\triangle CDE$ with vertices $C(1, 3)$, $D(5, 3)$, and $E(2, 1)$ and its image after the similarity transformation.

1. **Translation:** $(x, y) \rightarrow (x - 5, y - 2)$
   Dilation: $(x, y) \rightarrow (-0.5x, -0.5y)$

2. **Reflection:** in the x-axis
   Dilation: $(x, y) \rightarrow (2x, 2y)$

3. Describe a similarity transformation that maps the black preimage to the dashed image.



In Exercises 4 and 5, determine whether the polygons with the given vertices are similar. Use transformations to explain your reasoning.

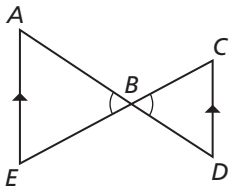
4. $A(-4, 0)$, $B(-4, -2)$, $C(-2, -1)$ and $D(4, 6)$, $E(4, 2)$, $F(8, 2)$

5. $W(0, -1)$, $X(-5, -1)$, $Y(-3, 2)$, $Z(-1, 2)$ and $K(0, -1)$, $L(5, 2)$, $M(3, 4)$, $N(1, 4)$

6. Prove that the figures are similar.

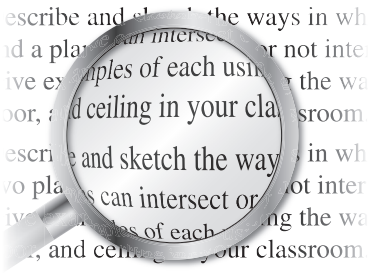
   Given $\angle ABE \cong \angle DBC$, $\overline{AE} \parallel \overline{CD}$

   Prove $\triangle ABE$ is similar to $\triangle DBC$.



7. Is it possible to draw two circles that are not similar? Explain your reasoning.

8. The image shows what text often looks like when viewed through a magnifying glass. Does this represent a similarity transformation? Explain your reasoning.



9. Your friend draws a sketch of triangles in his notebook like the one shown here. He then claims there are the same number of congruent triangles and similar triangles. Is your friend correct? Explain.