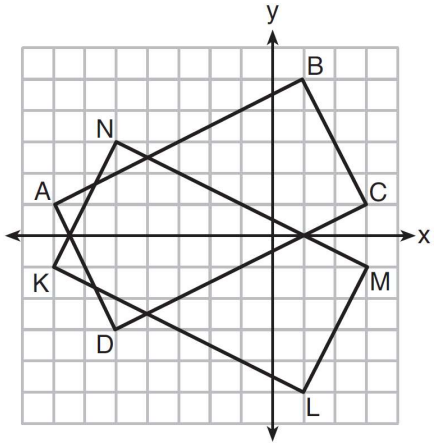
Name _____ Date _____
Mr. Schlansky Geometry

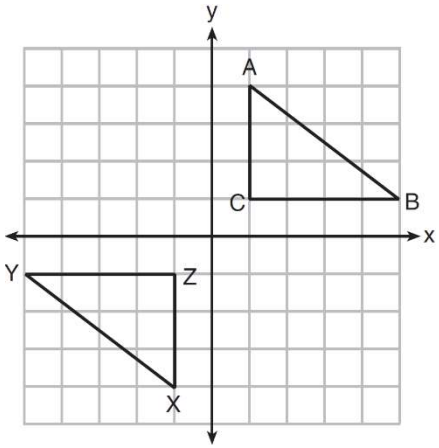
Proving Triangles are Congruent Using Rigid Motions

1. On the set of axes below, rectangle *ABCD* and rectangle *KLMN* are graphed. Use the properties of rigid motions to prove that the rectangles are congruent.

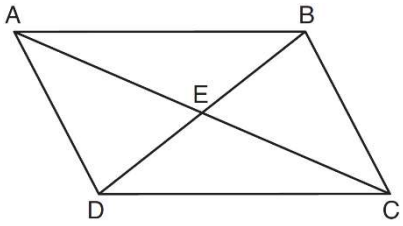


2. In the diagram below, $\triangle ABC$ and $\triangle XYZ$ are graphed.

Use the properties of rigid motions to explain why $\triangle ABC \cong \triangle XYZ$.

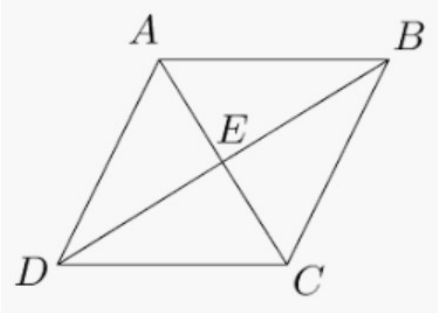


3. Given: Quadrilateral *ABCD* is a parallelogram with diagonals $\overline{AC}$ and $\overline{BD}$ intersecting at *E*

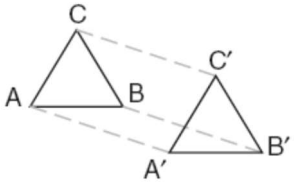


Describe a single rigid motion that maps $\triangle AED$ onto $\triangle CEB$. Are the triangles congruent? Why or why not?

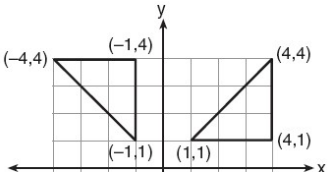
4. The diagram below shows rhombus $ABCD$ with diagonal $\overline{BD}$ drawn. Using the properties of rigid motions, explain why $\Delta ABD \cong \Delta CDB$.



5. In the accompanying diagram, $\Delta A'B'C'$ is the image of ΔABC and $\Delta A'B'C' \cong \Delta ABC$. Explain why the two triangles are congruent.



6. Are the triangles in the accompanying diagram congruent? Why or why not?



7. The transformation of ΔABC to $\Delta A'B'C'$ Are the triangles congruent? Why or why not?