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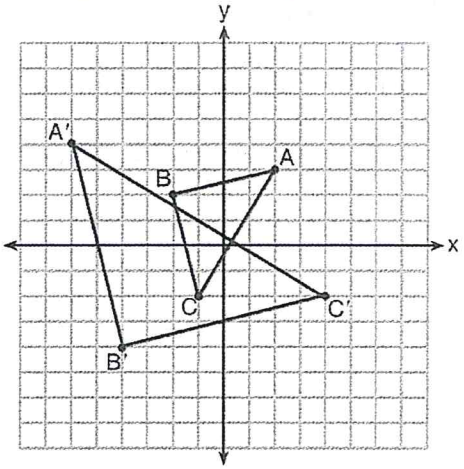
Date
Geometry

Sequences of Rigid Motions Practice ~~Group Quiz~~

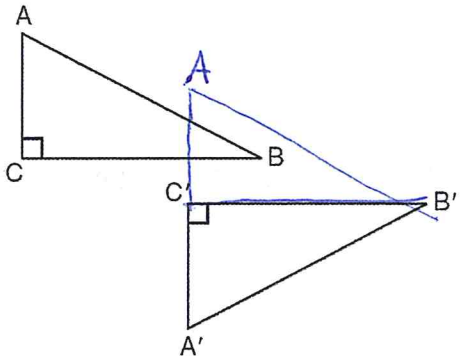
1. Which sequence of transformations will map $\triangle ABC$ onto $\triangle A'B'C'$?



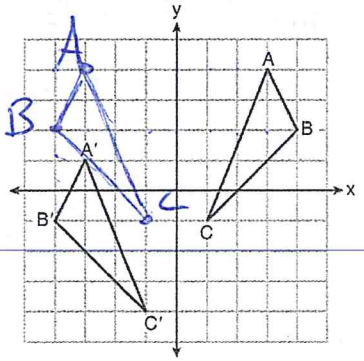
1) reflection and translation
2) rotation and reflection
3) translation and dilation
4) dilation and rotation

2. The diagram below shows ΔABC and $\Delta A'B'C'$. Describe a sequence of rigid motions that maps ΔABC onto $\Delta A'B'C'$.

1) translate $\overline{CB}$ to $\overline{C'B'}$ followed by reflecting ΔABC over $\overline{CB}$



3. As graphed on the set of axes below, $\triangle A'B'C'$ is the image of $\triangle ABC$ after a sequence of transformations.

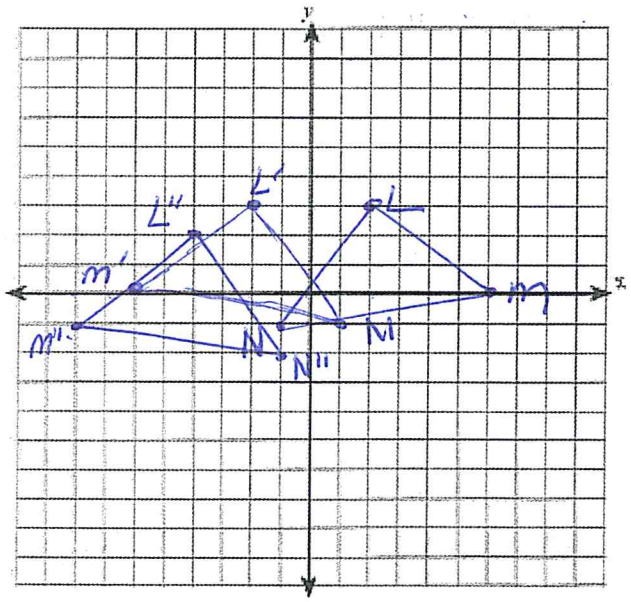


Is $\triangle A'B'C'$ congruent to $\triangle ABC$? Use the properties of rigid motion to explain your answer.

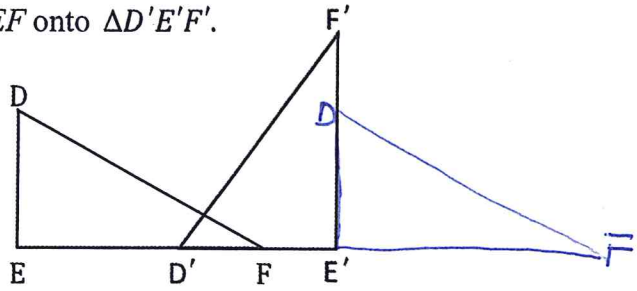
1) reflect ΔABC over the y-axis followed by a translation 3 units down
2) yes, a reflection and translation are rigid motions
3) A rigid motion preserves size and angle measure producing a congruent figure.

4. A set of transformations mapped ΔLMN from the coordinates of $L(2, 3)$, $M(6, 0)$, and $N(-1, -1)$ to the new coordinates of $L''(-4, 2)$, $M''(-8, -1)$, and $N''(-1, -2)$. Give an ordered list of transformations that would produce $\Delta L''M''N''$ from ΔLMN. [The use of the grid is optional.]

1) reflect ΔLMN over the y axis followed by a translation 2 units left and 1 unit down



5. Describe a sequence of rigid motions that maps ΔDEF onto $\Delta D'E'F'$.



Justify that $\Delta DEF \cong \Delta D'E'F'$.

1) translate E to E' followed by rotating ΔDEF about E until it maps onto $\Delta D'E'F'$

2) A translation and rotation are rigid motions

3) A rigid motion preserves size and angle measure producing a congruent figure.

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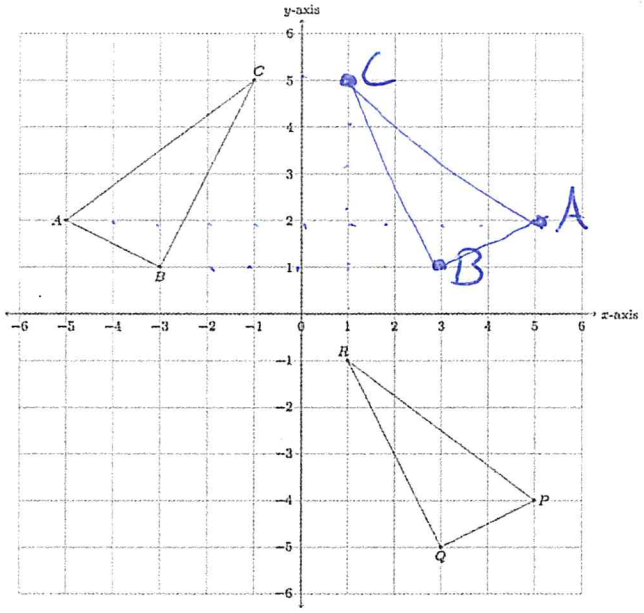
6. In the diagram below, ΔABC and ΔPQR are graphed. Is $\Delta ABC \cong \Delta PQR$? Justify your answer.

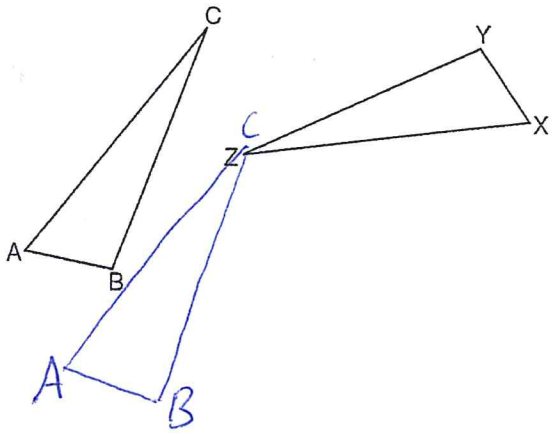
1) Reflect ΔABC over the y-axis followed by a translation 6 units down

2) Yes, a reflection and translation are rigid motions

3) A rigid motion preserves size and angle measure producing a congruent figure.



7. Describe a sequence of rigid motions that will map ΔABC onto ΔXYZ.



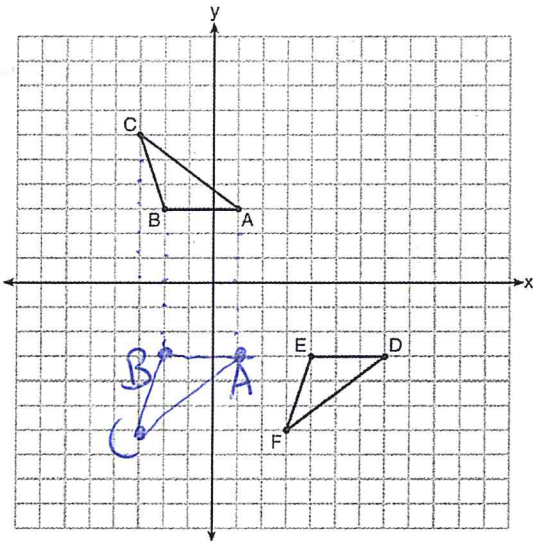
Is $\Delta ABC \cong \Delta XYZ$? Justify your answer.

1) translate C to Z followed by rotating ΔABC about C until it maps onto ΔXYZ

2) yes, a translation and rotation are rigid motions

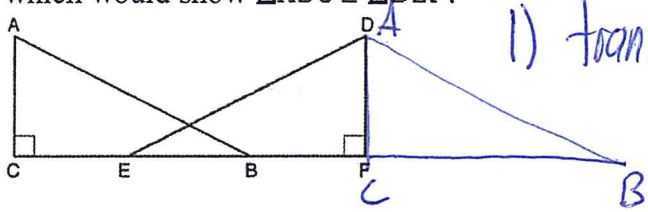
3) A rigid motion preserves size and angle measure producing a congruent figure.

8. Describe a sequence of transformations that will map $\triangle ABC$ onto $\triangle DEF$ as shown below.



1) reflect $\triangle ABC$ over the x-axis followed by a translation 6 units to the right

9. Given right triangles *ABC* and *DEF*. Describe a precise sequence of rigid motions which would show $\triangle ABC \cong \triangle DEF$.



1) translate ~~$\triangle ABC$~~ $\overline{AC}$ to $\overline{DF}$ followed by a reflection of $\triangle ABC$ over $\overline{AC}$