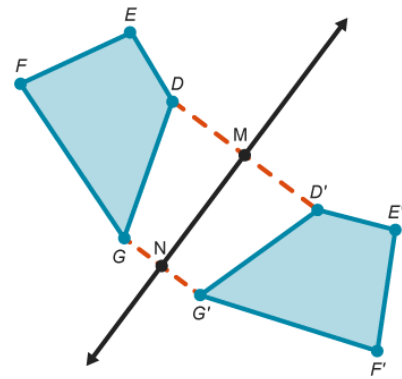


Transformations Test Prep

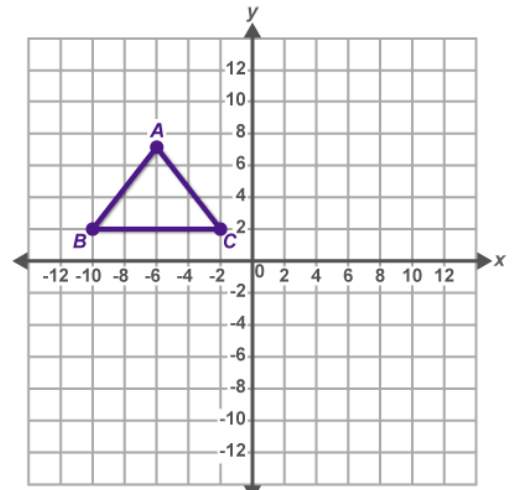
1. A quadrilateral is reflected across \overleftrightarrow{MN} . Which of the following statements must be true?

- A. $\overline{MN} \perp \overline{GG'}$
- B. $\overline{DG} \cong \overline{D'G'}$
- C. $\overline{GG'} \cong \overline{DD'}$
- D. $\angle DND' \cong \angle ENE'$
- E. $\overline{GN} \cong \overline{NG'}$
- F. $\overline{DM} \cong \overline{MD'}$

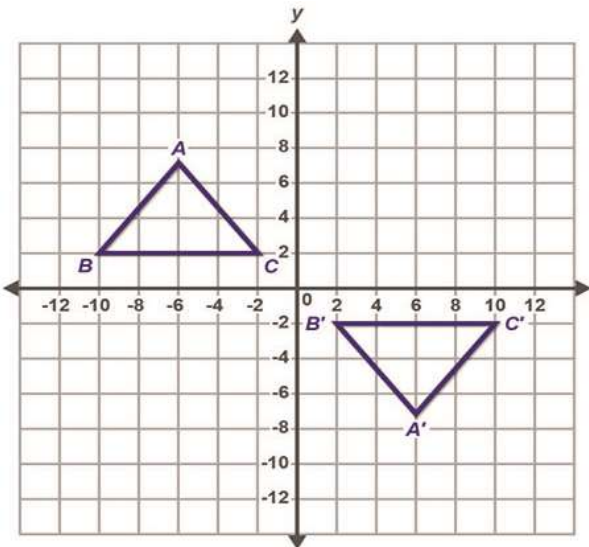
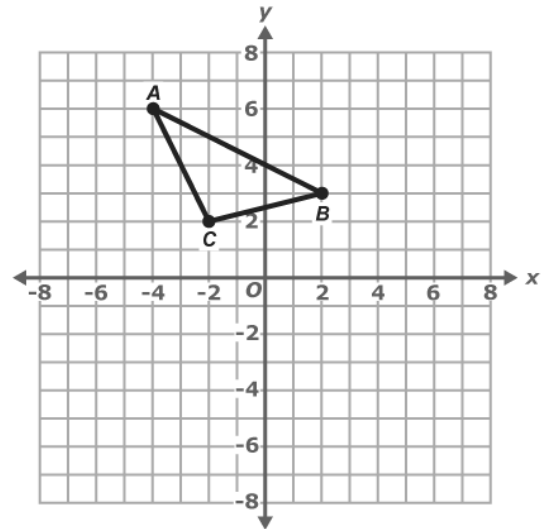


2. Which of the following are true about $\triangle ABC$?

- After a 180° rotation about origin, C' will be at $(2, -2)$
- After a 90° CW rotation about origin, A' will be at $(7, 6)$
- After a 90° CCW rotation about origin, A' will be at $(-7, 6)$
- After translation $(x, y) \rightarrow (x + 6, y)$, C' will be at $(6, 2)$.



3. $\triangle ABC$ is reflected across the x-axis, then rotated 90° CCW about the origin. Find the coordinates of A'' , B'' , and C'' .

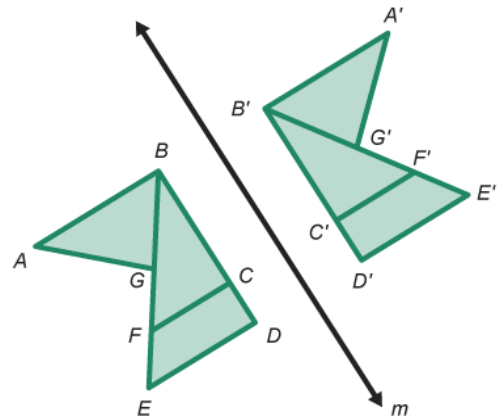


4. Which description accurately describes the sequence of rigid motions that would carry $\triangle ABC$ onto $\triangle A'B'C'$?

- rotation 180° about origin
- rotation 180° about origin, then reflection across $x = 6$
- rotation 90° CCW about origin, then reflect across y-axis
- rotation 90° CW about origin, then reflect across x-axis

5. A reflection across line m is shown below. Circle all the true statements.

$FC = C'F'$	$\overline{BE} \cong \overline{B'E'}$	$\angle EDC \cong \angle E'F'C'$
$\angle AGE \cong \angle A'G'F'$	$\frac{BD}{B'D'} = 1$	$\frac{BF}{BE} = \frac{B'F'}{B'E'}$
$\angle CFE \cong \angle C'F'E'$	$\overline{BC} \cong \overline{B'F'}$	$\frac{BC}{B'D'} = \frac{BD}{B'C'}$



6. Triangle ABC has vertices located at $A(0, 0)$, $B(3, 0)$, and $C(0, 4)$. The triangle undergoes a rotation 90° counterclockwise about the origin followed by a translation, so that the coordinates of its image are located at $A''(5, -5)$ and $B''(5, -2)$. What are the coordinates of C'' ?

7. Kenneth is creating the chart below to compare and contrast the different transformations of objects. He wants to show the similarities and differences between translations, rotations, and reflections. In his chart, four statements are given. For each statement, an “X” should label each transformation for which the statement is true. Some of the information in Kenneth’s chart is incorrect. Help Kenneth by evaluating his chart and making the appropriate suggestions to fix it.

Statement	Type of Transformation (X = true for this transformation)		
	Translation	Rotation	Reflection
1. The distances between points on the polygon are preserved by the transformation.	X	X	
2. The orientation of points on the polygon is preserved by the transformation.		X	X
3. The distance between corresponding points in the image and pre-image is constant.	X	X	X
4. The angle measures between sides on the polygon are preserved by the transformation.	X	X	X

Select the suggestions that are needed to make Kenneth’s chart correct. *Select only the changes that Kenneth needs to make to the chart.*

- Statement 1 is also correct for a reflection. Kenneth needs to also mark “Reflection” with an “X”.
- Statement 2 is correct for a translation and a rotation, but not a reflection. Kenneth needs to mark “Translation” with an “X” and remove the “X” from “Reflection”.
- Statement 3 is true only for a translation, but not a rotation or a reflection. Kenneth needs to remove the “X” from both “Rotation” and “Reflection”.
- Statement 4 is not true for any of the transformations. Kenneth needs to remove the “X” from “Translation”, “Rotation” and “Reflection”.