

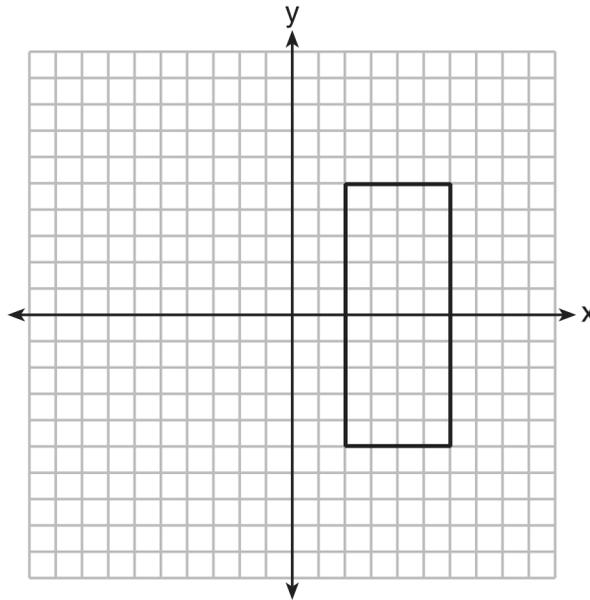
Geometry HW #12

Name: _____

Date: _____

1. The image of $\triangle DEF$ is $\triangle D'E'F'$. Under which transformation will the triangles *not* be congruent?
 - A. a reflection through the origin
 - B. a reflection over the line $y = x$
 - C. a dilation with a scale factor of 1 centered at $(2, 3)$
 - D. dilation with a scale factor of $\frac{3}{2}$ centered at the origin

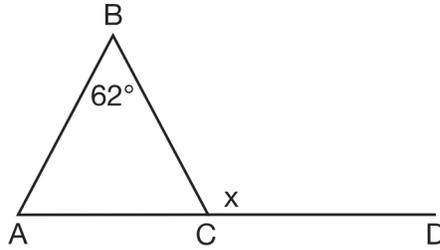
2. As shown in the graph below, the quadrilateral is a rectangle.



Which transformation would *not* map the rectangle onto itself?

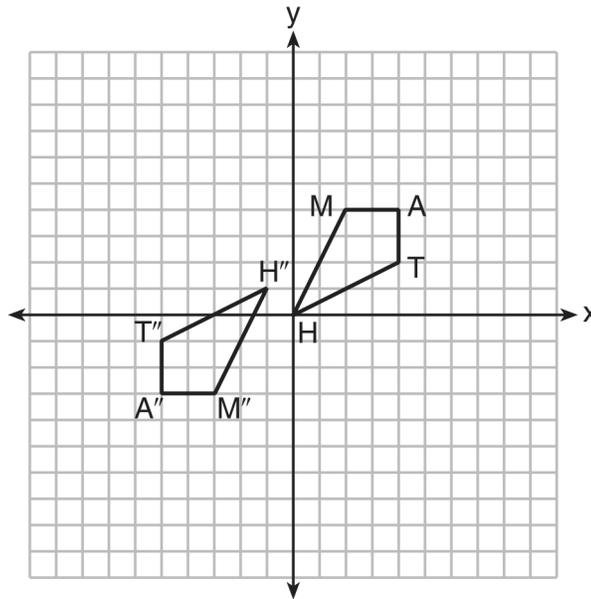
- | | |
|---|---|
| A. a reflection over the x -axis | B. a reflection over the line $x = 4$ |
| C. a rotation of 180° about the origin | D. a rotation of 180° about the point $(4, 0)$ |

3. Given $\triangle ABC$ with $m\angle B = 62^\circ$ and side \overline{AC} extended to D , as shown below.



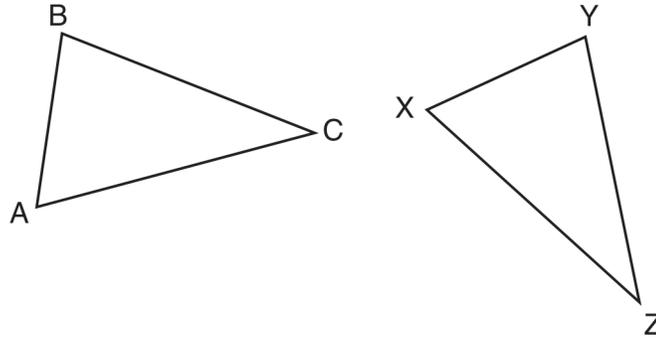
Which value of x makes $\overline{AB} \cong \overline{CB}$?

- A. 59° B. 62° C. 118° D. 121°
4. Quadrilateral $MATH$ and its image $M''A''T''H''$ are graphed on the set of axes below.



Describe a sequence of transformations that maps quadrilateral $MATH$ onto quadrilateral $M''A''T''H''$.

5. In the diagram below of $\triangle ABC$ and $\triangle XYZ$, a sequence of rigid motions maps $\angle A$ onto $\angle X$, $\angle C$ onto $\angle Z$, and \overline{AC} onto \overline{XZ} .

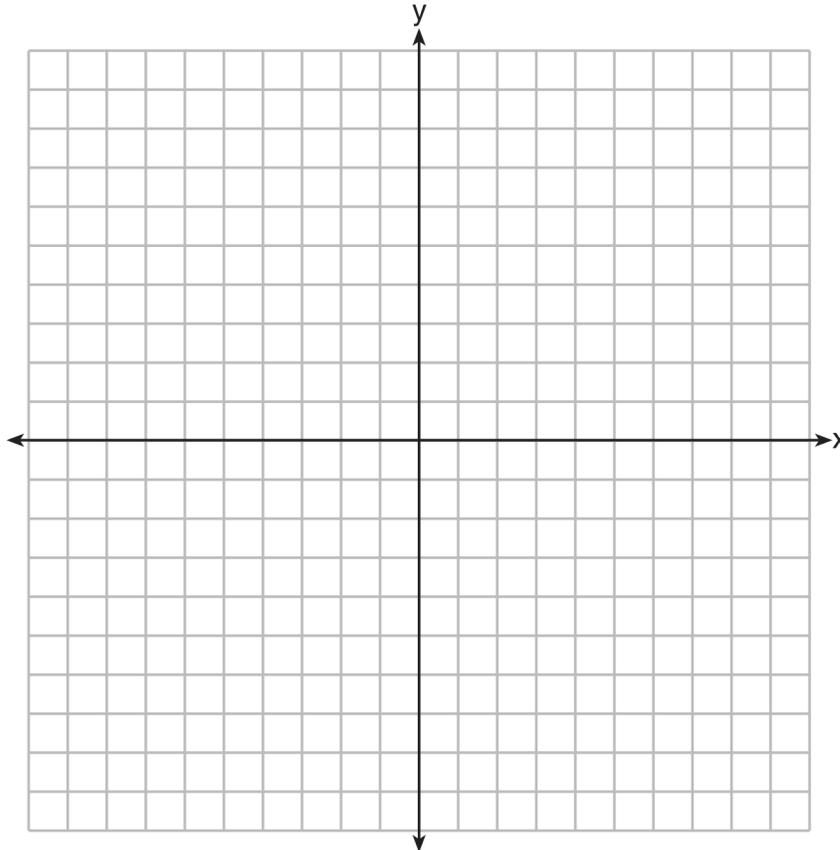


Determine and state whether $\overline{BC} \cong \overline{YZ}$. Explain why.

6. Triangle ABC has vertices at $A(-5, 2)$, $B(-4, 7)$, and $C(-2, 7)$, and triangle DEF has vertices at $D(3, 2)$, $E(2, 7)$, and $F(0, 7)$. Graph and label $\triangle ABC$ and $\triangle DEF$ on the set of axes below.

Determine and state the single transformation where $\triangle DEF$ is the image of $\triangle ABC$.

Use your transformation to explain why $\triangle ABC \cong \triangle DEF$.



1.
Answer: D
2.
Answer: C
3.
Answer: D
4.
Answer: Reflection over the origin and a
 translation of $(x - 1, y + 1)$
5.
Answer: $\overline{BC} \cong \overline{YZ}$
6.
Answer: [construction], [task], [explanation]