

Name:

Date:

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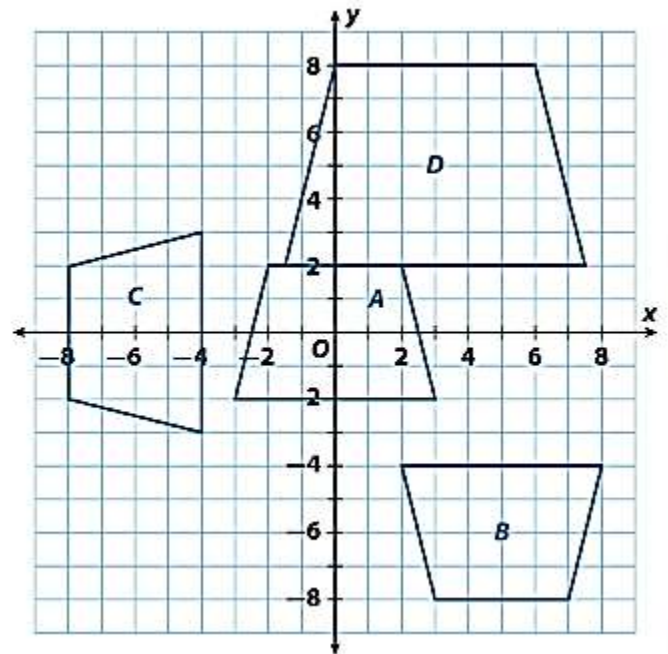
Lesson: Multiple Transformations

Identify a sequence of two transformations that will transform figure A into the given figure. (Example 1)

figure B

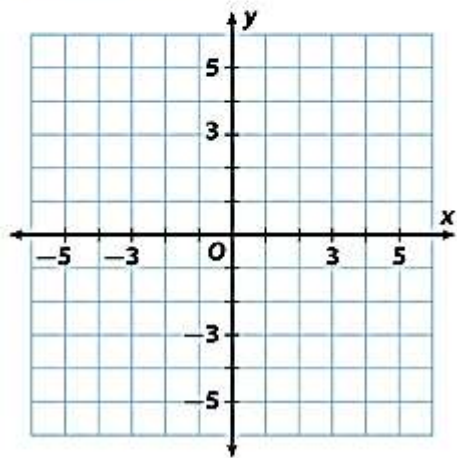
figure C

figure D



Example 2:

Triangle ABC with vertices $A(1, 2)$, $B(1, 4)$, and $C(3, 3)$ is translated by $(x, y) \rightarrow (x - 4, y)$, and the result is reflected by $(x, y) \rightarrow (x, -y)$. Graph the preimage and the image. (Lesson 9.5)



Example 3:

Do the following example without graphing:

Triangle MNP has its vertices located at $(-1, -4)$, $(-2, -5)$, and $(-3, -3)$. Find the vertices after the triangle has been reflected by $(x, y) \rightarrow (x, -y)$ and translated by $(x, y) \rightarrow (x + 6, y)$. (Lesson 9.5)

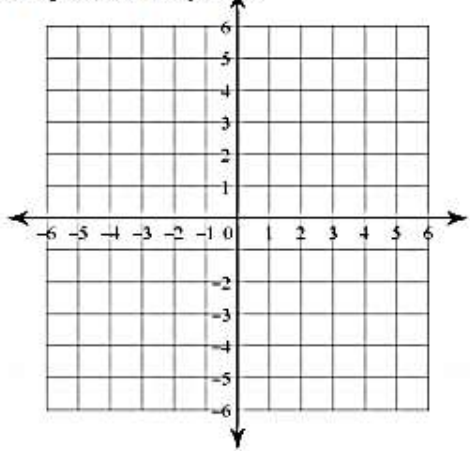
Example 4:

Do the following example without graphing:

Rectangle $WXYZ$ has vertices at $(-2, -1)$, $(-2, 1)$, $(2, -1)$, and $(2, 1)$. It is first dilated by $(x, y) \rightarrow (2x, 2y)$, and then translated by $(x, y) \rightarrow (x, y + 3)$. (*Lesson 10.3*)

- a. What are the vertices of the image? _____
- b. Are the preimage and image congruent? Are they similar? Explain.

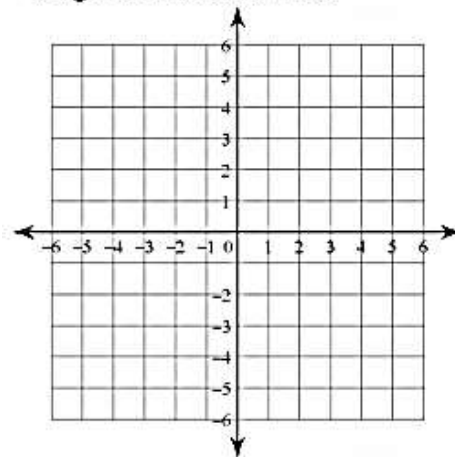
a) Translate $\triangle ALT$ if $A(-5,-1)$, $L(-3,-2)$, $T(-3,2)$ by the rule $(x,y) \rightarrow (x+6, y-3)$, then reflect the image over the y -axis



A' (____, ____)
 L' (____, ____)
 T' (____, ____)

A'' (____, ____)
 L'' (____, ____)
 T'' (____, ____)

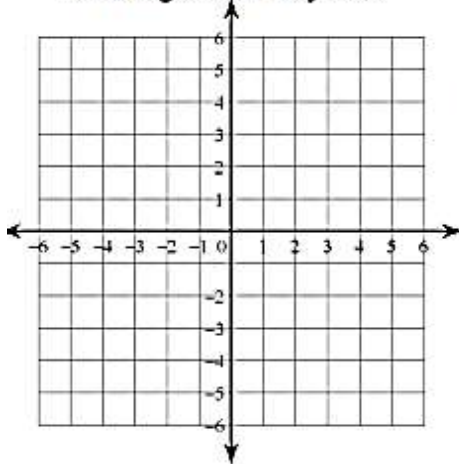
c) Rotate $\triangle TAB$ if $T(2,3)$, $A(1,1)$, $B(4,-3)$ 90° clockwise about the origin, then reflect the image over the line x -axis.



T' (____, ____)
 A' (____, ____)
 B' (____, ____)

T'' (____, ____)
 A'' (____, ____)
 B'' (____, ____)

b) Reflect $\triangle TAB$ if $T(2,3)$, $A(1,1)$, and $B(4,-3)$ over the x -axis, then reflect the image over the y -axis



T' (____, ____)
 A' (____, ____)
 B' (____, ____)

T'' (____, ____)
 A'' (____, ____)
 B'' (____, ____)

Translate the triangle 6 units up, and then draw a dilation of the image using a scale factor of 2 and the origin as the center dilation.

