

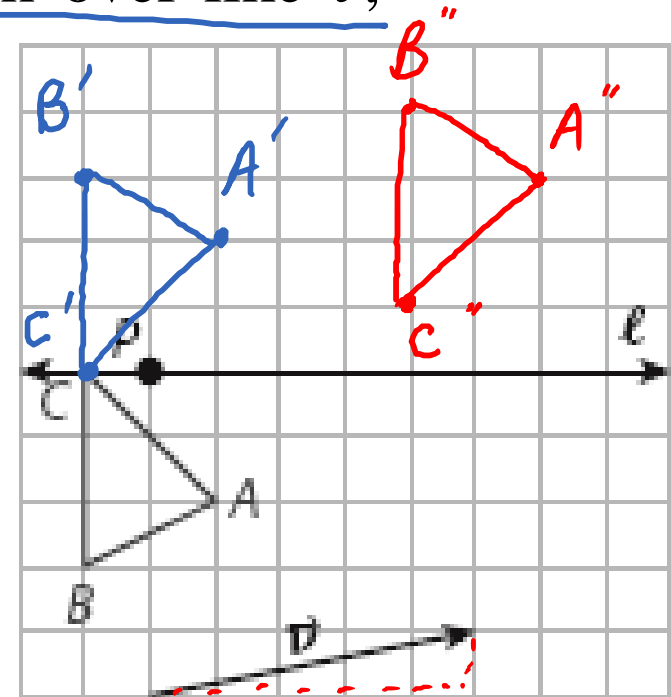
New seats today, you may sit where you wish.

Don't forget about quiz retakes.

3.1 Sequences of Transformations

When doing a sequence of transformations, we will use “double prime”.

Ex. Draw the image of $\triangle ABC$ after a reflection over line ℓ , followed by a translation along vector v .



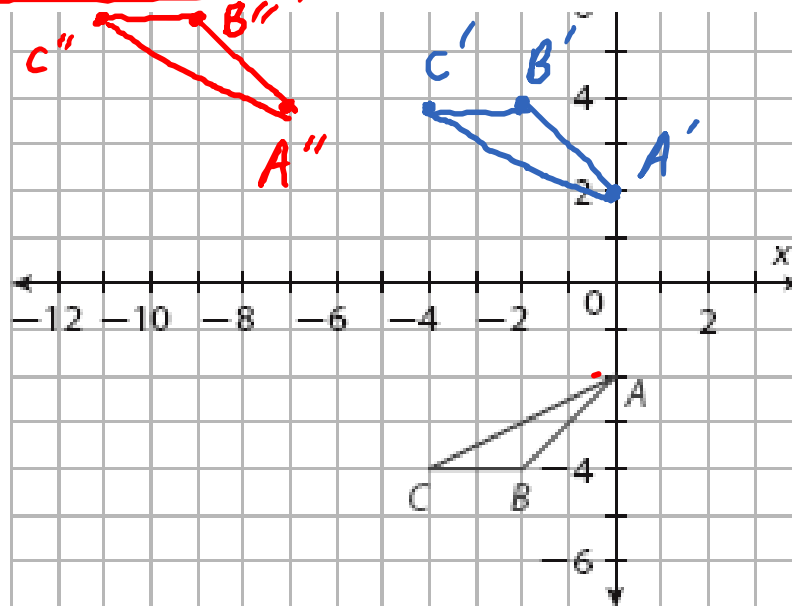
When we work with coordinates, we can write the coordinate notation for the sequence of transformations.

Ex. Describe the sequence of transformations in words, and then draw the images.

$$(x, y) \rightarrow (x, -y) \rightarrow (x - 7, y + 2)$$

*reflect over
x-axis*

*shift left 7
and up 2*

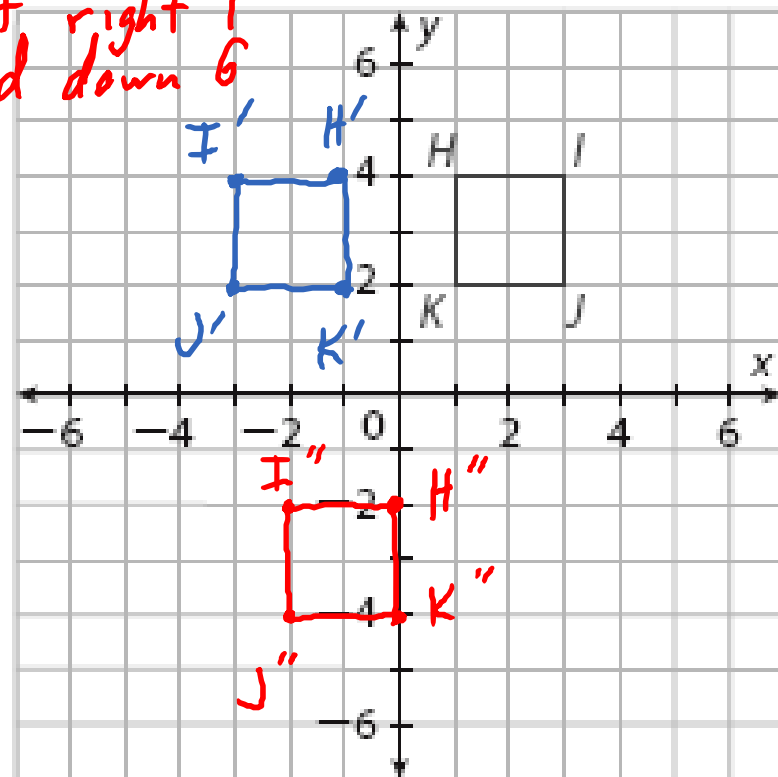


Ex. Describe the sequence of transformations in words, and then draw the images.

$$(x, y) \rightarrow \underline{(-x, y)} \rightarrow \underline{(x + 1, y - 6)}$$

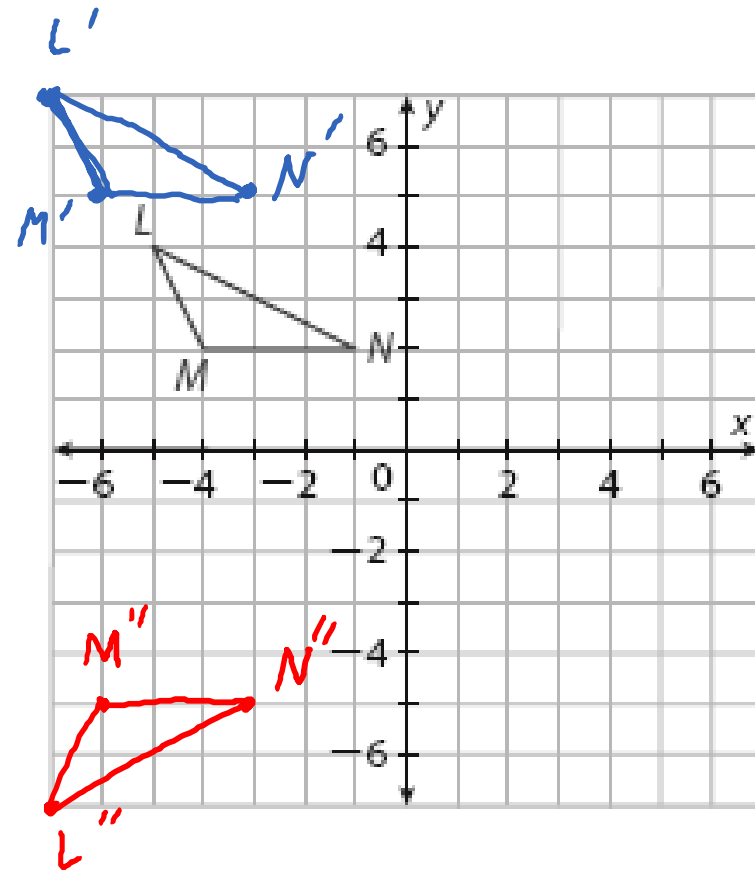
reflect over
y-axis

shift right 1
and down 6



Ex. Draw the images if $\triangle LMN$ is translated along the vector $\langle -2, 3 \rangle$ and then reflected over the x -axis. Then write the coordinate notation.

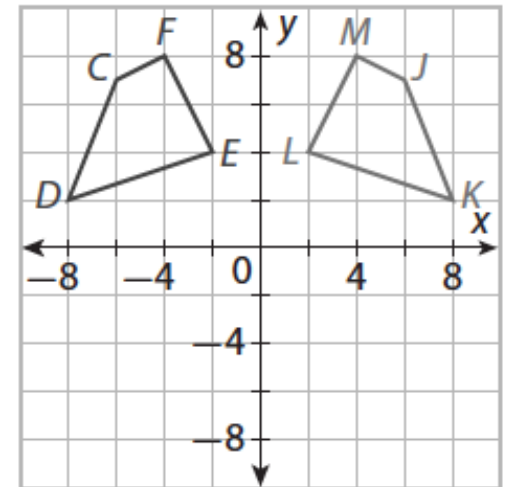
$$(x, y) \rightarrow (x-2, y+3) \rightarrow (x, -y)$$



All of the transformations we've done – translations, reflections, rotations – are called rigid motions because they don't change the object.

- The figures are congruent because they are the same shape and size.

$$DCEF \cong JKLM$$



Ex. Explain why $JKLM \cong WXYZ$.

reflect over x-axis

translate left 2
down 1

