

Bell Work

A tourist in London looks up at the clock in Big Ben tower and finds that it is exactly 8:00. When she looks up at the clock later, it is exactly 8:10.

30° per #

- a. Through what angle of rotation did the minute hand turn? Through what angle of rotation did the hour hand turn?

$60^\circ / 5^\circ$

- b. Make a table that shows different amounts of time, from 5 minutes to 60 minutes, in 5-minute increments. For each number of minutes, provide the angle of rotation for the minute hand of a clock and the angle of rotation for the hour hand of a clock.



$$360^\circ \cdot \frac{2}{12} = 60^\circ$$

$$30^\circ \cdot \frac{10 \text{ min.}}{60 \text{ min}} = 5^\circ$$

min	min hand	hour hand
5	30°	2.5°
10	60°	5°
15	90°	7.5°

3.1 Sequences of Transformations

Essential Question: What happens when you apply more than one transformation to a figure?

Dilation- preserves the shape but
NOT the size of a figure

Horizontal or Vertical stretch-
does NOT preserve either the
size or the shape of a figure

Example: Draw the image of the figure in the plane after the given
combination of transformations. pg. 118

$$(x, y) \rightarrow \left(\frac{3}{2}x, \frac{3}{2}y\right) \rightarrow (-x, y) \rightarrow (x+1, y-2)$$

$$A = (2, 2) \quad A' =$$

$$B = (2, 4) \quad B' =$$

$$C = (6, 4) \quad C' =$$

$$D = (4, 2) \quad D' =$$

$$A'' =$$

$$B'' =$$

$$C'' =$$

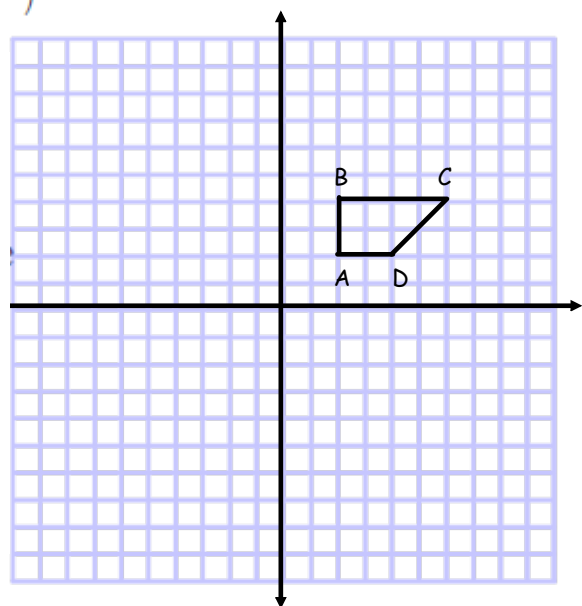
$$D'' =$$

$$A''' =$$

$$B''' =$$

$$C''' =$$

$$D''' =$$



Pre. 1st → 2nd
 $(x, y) \rightarrow (3x, y) \rightarrow \left(\frac{1}{2}x, -\frac{1}{2}y\right)$

$A = (0, -2)$ $A' = (0, -2)$

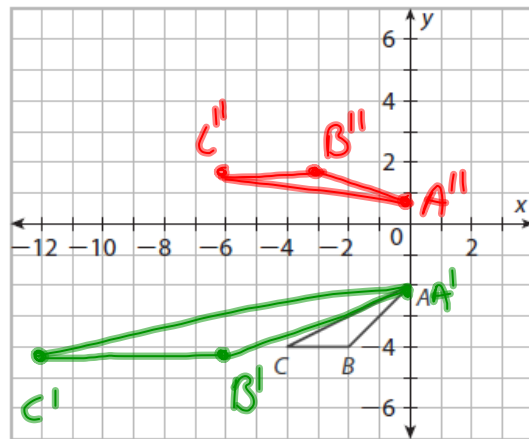
$B = (-2, -4)$ $B' = (-6, -4)$

$C = (-4, -4)$ $C' = (-12, -4)$

$A'' = (0, 1)$

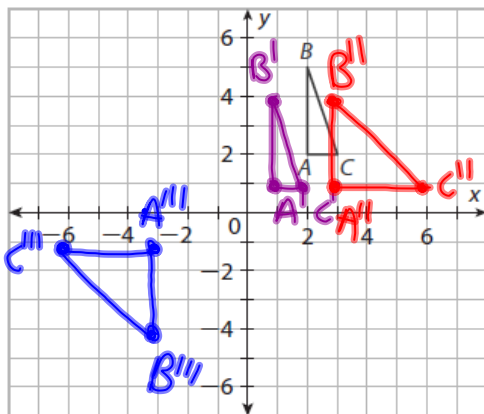
$B'' = (-3, 2)$

$C'' = (-6, 2)$



Draw the image of the figure in the plane after the given combination of transformations.

$(x, y) \rightarrow (x - 1, y - 1) \rightarrow (3x, y) \rightarrow (-x, -y)$



$A = (2, 2)$ $A' = (1, 1)$

$B = (2, 5)$ $B' = (1, 4)$

$C = (3, 2)$ $C' = (2, 1)$

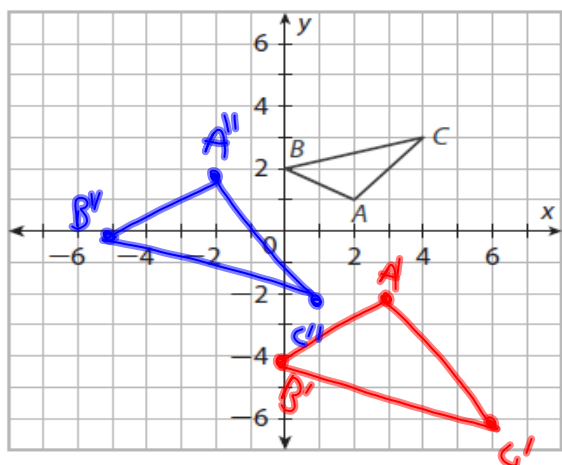
$A'' = (3, 1)$ $A''' = (-3, -1)$

$B'' = (3, 4)$ $B''' = (-3, -4)$

$C'' = (6, 1)$ $C''' = (-6, -1)$

Draw the image of the figure in the plane after the given combination of transformations.

$$(x, y) \rightarrow \left(\frac{3}{2}x, -2y\right) \rightarrow (x - 5, y + 4)$$



$$A = (2, 1) \quad A' = (3, -2)$$

$$B = (0, 2) \quad B' = (0, -4)$$

$$C = (4, 3) \quad C' = (6, -6)$$

$$A'' = (-2, 2)$$

$$B'' = (-5, 0)$$

$$C'' = (1, -2)$$

Tear out pages 122-124

Do problems 1-6

