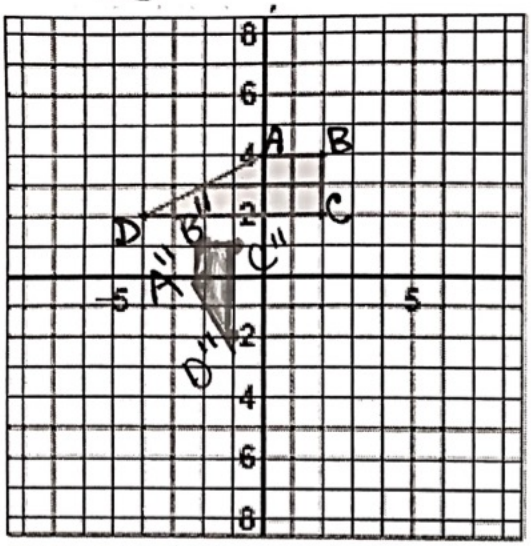
Composition of Transformations Notes – Day 2 Name: Key

- Perform the series of transformations described to create the final image.
- Graph each figure. Be sure to shade ONLY the final image.
- State if the image is congruent or similar to pre-image.

1. *Dilate by* $c = \frac{1}{2}$ *and rotate by 90° counterclockwise*



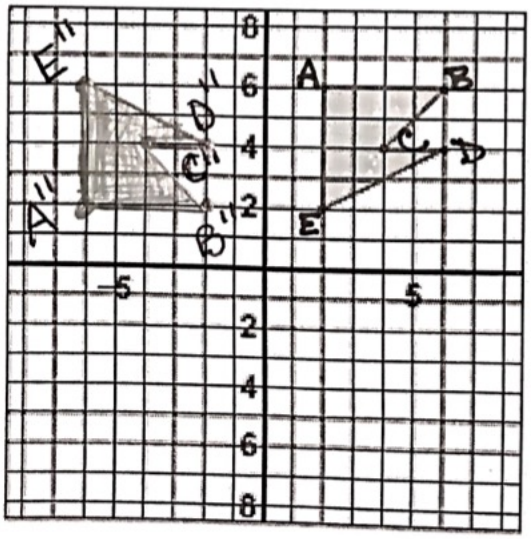
$(\frac{1}{2}x, \frac{1}{2}y)$ $(-y, x)$

Pre-Image	Image 1	Image 2
A (0,4)	A' (0,2)	A'' (-2,0)
B (2,4)	B' (1,2)	B'' (-2,1)
C (2,2)	C' (1,1)	C'' (-1,1)
D (-4,2)	D' (-2,1)	D'' (-1,-2)

The image is CONGRUENT or SIMILAR to the pre-image.

same shape
different size

2. *Reflect across* $x-axis$ *&* *translate* $(x,y) \rightarrow (x-8, y+8)$



$(x, -y)$ $(x-8, y+8)$

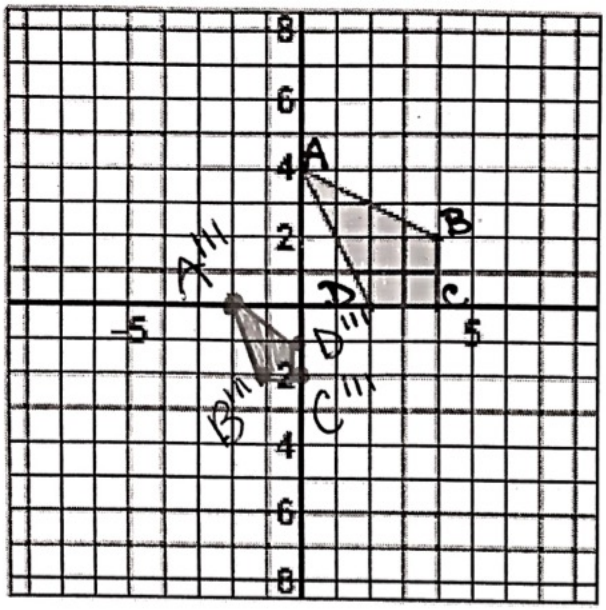
Pre-Image	Image 1	Image 2
A (2,6)	A' (2,-6)	A'' (-6,2)
B (6,6)	B' (6,-6)	B'' (-2,2)
C (4,4)	C' (4,-4)	C'' (-4,4)
D (6,4)	D' (6,-4)	D'' (-2,4)
E (2,2)	E' (2,-2)	E'' (-6,6)

The image is CONGRUENT or SIMILAR to the pre-image.

same size
same shape

1. Dilate by $c = \frac{1}{2}$ (1) rotate 90° counterclockwise (2), and reflect across $x-$axis (3)

$(\frac{1}{2}x, \frac{1}{2}y)$ $(-y, x)$ $(x, -y)$



Pre-Image	Image 1	Image 2	Image 3
A (0,4)	A' (0,2)	A'' (-2,0)	A''' (-2,0)
B (4,2)	B' (2,1)	B'' (-1,2)	B''' (-1,-2)
C (4,0)	C' (2,0)	C'' (0,2)	C''' (0,-2)
D (2,0)	D' (1,0)	D'' (0,1)	D''' (0,-1)

The image is CONGRUENT or SIMILAR to the pre-image.

Same shape
different size