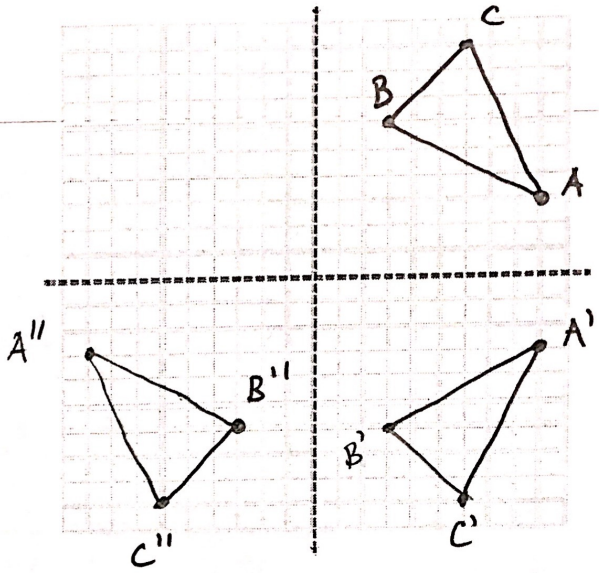
Geometry 3312
Transformation Combinations Practice

Name: Key

Graph the original triangle then the two transformations. Draw each one a different color.

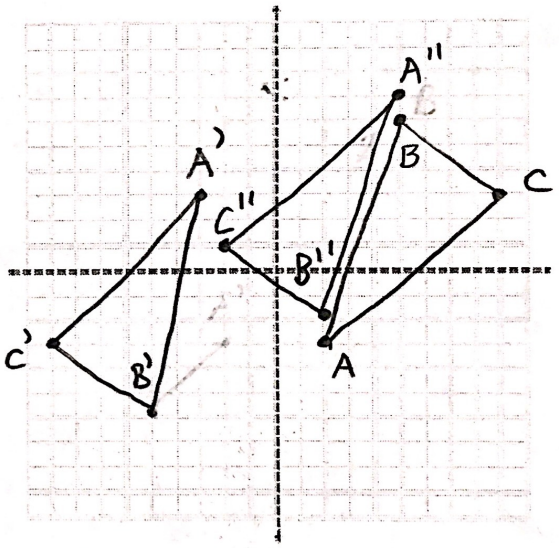
1.

		x-axis reflection $(x,-y)$		y-axis reflection $(-x,y)$
A (9, 3)	→	A' (9,-3)	→	A" (-9,-3)
B (3, 6)	→	B' (3,-6)	→	B" (-3,-6)
C (6, 9)	→	C' (6,-9)	→	C" (-6,-9)



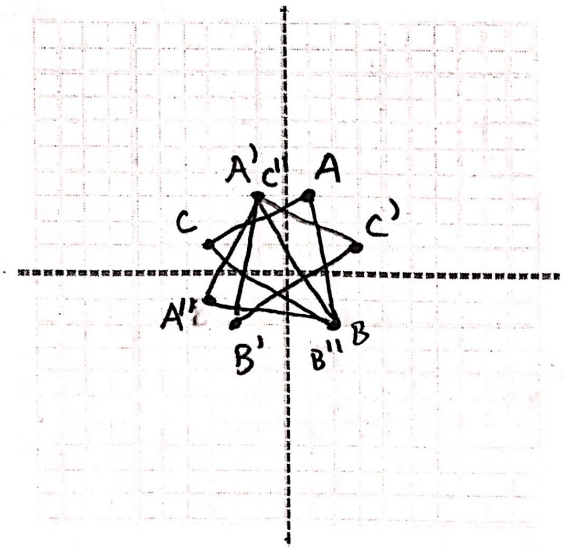
2.

		Rotate 180° $(-x,-y)$		Right 7 Up 4 $(x+7,y+4)$
A (2, -3)	→	A' (-2,+3)	→	A" (5, 7)
B (5, 6)	→	B' (-5,-6)	→	B" (2,-2)
C (9, 3)	→	C' (-9,-3)	→	C" (-2,1)



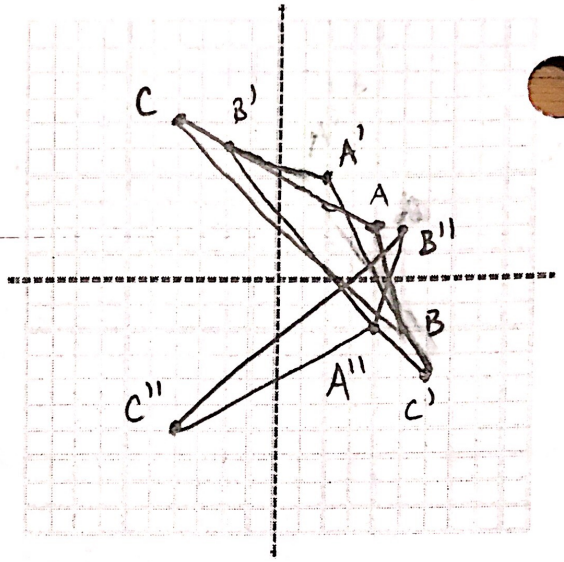
3.

		Reflect over y-axis $(-x,y)$		Rotate 90° $(-y,x)$
A (1, 3)	→	A' (-1,3)	→	A" (-3,-1)
B (2, -2)	→	B' (-2,-2)	→	B" (2,-2)
C (-3, 1)	→	C' (3,1)	→	C" (-1,3)

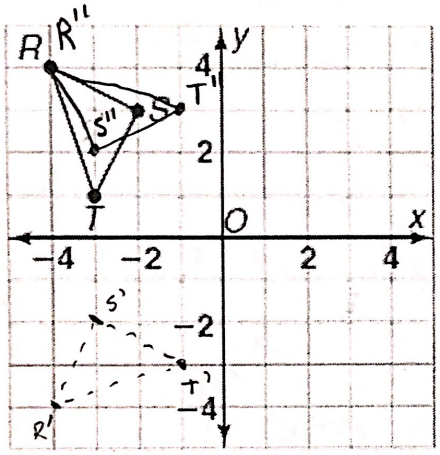


4.

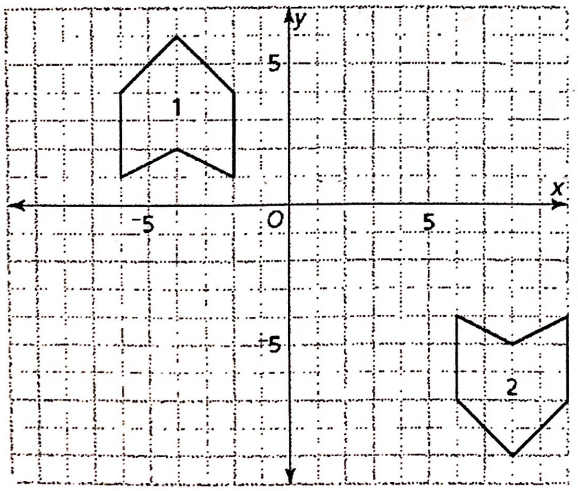
		Reflect over y = x (y, x)		Rotate 270° (y, -x)
A (4, 2)	→	A' (2, 4)	→	A'' (4, -2)
B (5, -2)	→	B' (-2, 5)	→	B'' (5, 2)
C (-4, 6)	→	C' (6, -4)	→	C'' (-4, -6)



5. Draw the final image created by rotating triangle *RST* 90° counterclockwise about the origin and then reflecting the image in the *x*-axis.



6. Refer to the grid below:



a. Describe how you could move shape 1 to exactly match shape 2 by using one translation and one reflection.

Translate Right 12, up 3 ;
Reflect over X-axis.

b. Are there other sequences of transformations that would move shape 1 to exactly match shape 2? If so, describe the steps you would perform.

Translate Left 4, up 3
Rotate 180° CCW.