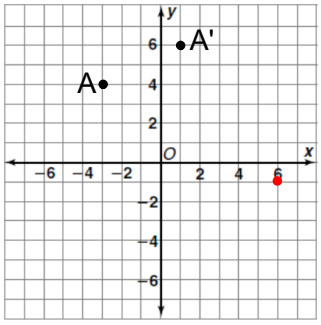
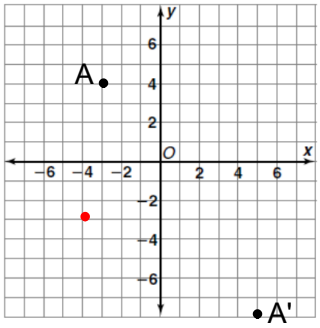
Warm-Up (do this on graph paper)

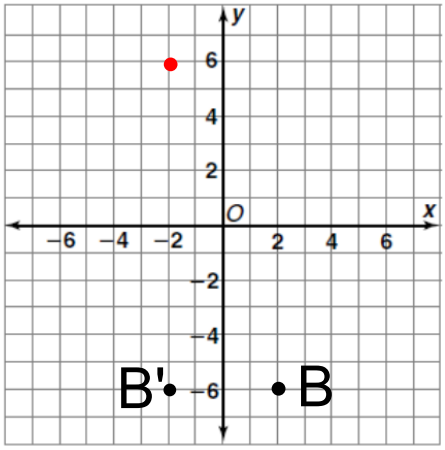
1. Graph the pre-image (-3, 4) and label it point A. Translate point A 9 units to the right, 5 units down and then rotate the point 90 degrees. Label the image A'.



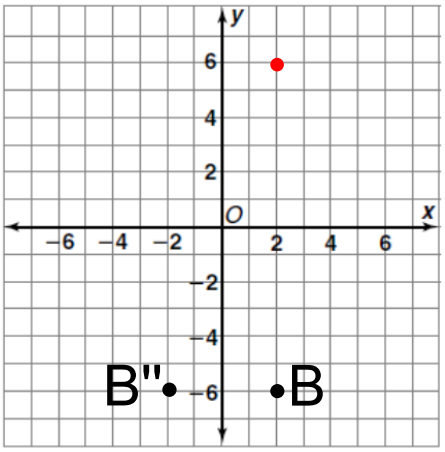
2. Graph the pre-image (-3, 4) and label it point A. Rotate point A 90 degrees and then translate the point 9 units to the right, 5 units down. Label the image A".



3. Graph the pre-image (2, -6) and label it point B. Rotate point B 180 degrees and then reflect that point over the x-axis. Label the image B'.



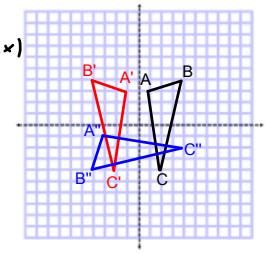
4. Graph the pre-image (2, -6) and label it point B. Reflect that point over the x-axis and then rotate point B 180 degrees. Label the image B".



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

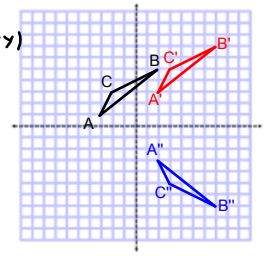
1.

	y-axis Reflection $(x,y)\rightarrow(-x,y)$		Rotate 90° $(x,y)\rightarrow(-y,x)$
A (1, 3) →	A' (-1, 3) →		A" (-3, -1)
B (4, 4) →	B' (-4, 4) →		B" (-4, -4)
C (2, -4) →	C' (-2, -4) →		C" (4, -2)



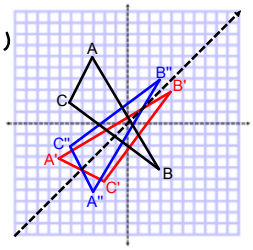
2.

	Translation Right 5 Up 2 $(x,y) \to (x+5, y+2)$		x-Axis Reflection $(x, y) \to (x, -y)$
A (-3, 1) →	A' (2, 3) →		A'' (2, -3)
B (2, 5) →	B' (7, 7) →		B'' (7, -7)
C (-2, 3) →	C' (3, 5) →		C'' (3, -5)



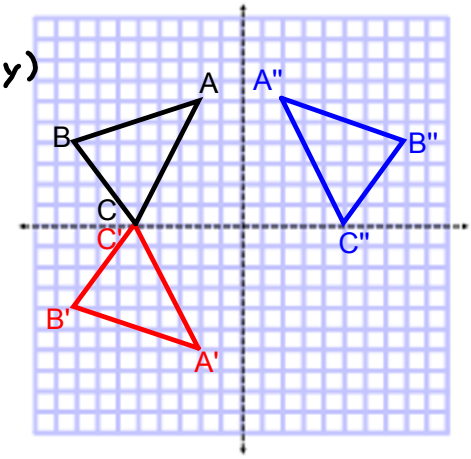
3.

	Rotate 90° $(x,y) \to (-y, x)$		Reflect over y = x $(x, y) \to (y, x)$
A (-3, 6) →	A' (-6, -3) →		A'' (-3, -6)
B (3, -4) →	B' (4, 3) →		B'' (3, 4)
C (-5, 2) →	C' (-2, -5) →		C'' (-5, -2)



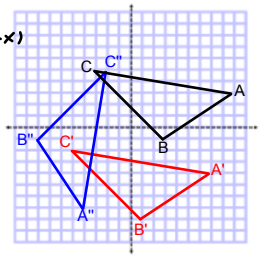
4.

	x-axis reflection	Rotate 180°
	$(x,y) \rightarrow (x,-y)$	$(x,y) \rightarrow (-x,-y)$
A (-2, 6) →	A' (-2, -6) →	A'' (2, 6)
B (-8, 4) →	B' (-8, -4) →	B'' (8, 4)
C (-5, 0) →	C' (-5, 0) →	C'' (5, 0)



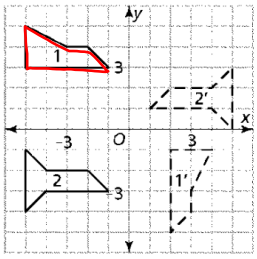
5.

	Left 2 Down 7	Rotate 270°
	$(x,y) \rightarrow (x-2, y-7)$	$(x,y) \rightarrow (y,-x)$
A (9, 3) →	A' (7, -4) →	A'' (-4, -7)
B (3, -1) →	B' (1, -8) →	B'' (-8, -1)
C (-3, 5) →	C' (-5, -2) →	C'' (-2, 5)



6. Describe how you could move shape 1 to exactly match shape 1' by using a combination of transformations.

Describe how you could move shape 2 to exactly match shape 2' by using a combination of transformations.



6.1 Symmetry
Translations
Reflection
Rotations
Combinations

25 pts

5.3 - 5.7 *

2 workbook
2 textbook