Geometry (G.CO.5)
Unit 1A: Order of Compositions (IC17)

Name: _____
Date: _____ Period: _____

Function Composition Review: What's f(g(x))? f(x) = x – 2 g(x) = 3x g(2) = 3(2) so g(2) = 6

f(g(2)) = f(6) = 6 – 2 = 4 *Note: do inside first*

Another way of writing f(g(x)) is ___$f \circ g$_____.

Happens 2nd — Happens 1st

COMPOSITE TRANSFORMATIONS:

2 or more transformations in a row applied to a preimage

Translation Notation:	**Reflection Notation:**	**Rotation Notation:**	**Dilation Notation:**
Right 2 and down 3	Over the line y = -x	Around origin 270° CCW	n = 2 around origin
$T_{<2,-3>}$	$R_{y = -x}$	$R_{o,270° CCW}$	$D_{o,2}$

Notation: Write the following composition in function composition notation.

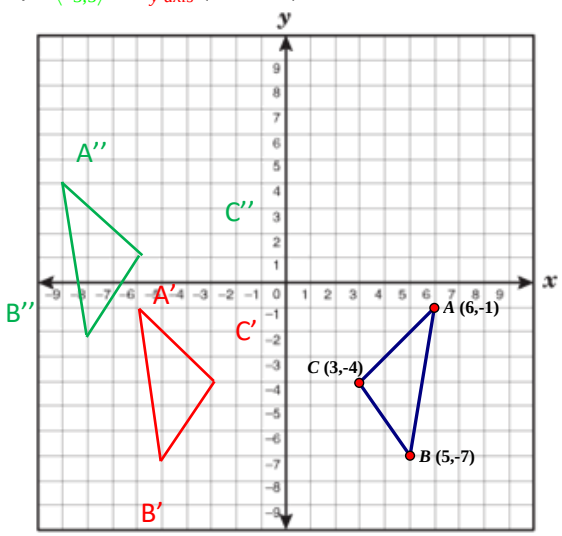
Reflect ΔABC over the line x = -2 and then translate it up four.

$T_{<0,4>} \circ R_{x = -2}(\Delta ABC)$

Does Composition ORDER matter? – Use the composite transformation to plot ΔA'B'C' and ΔA''B''C''

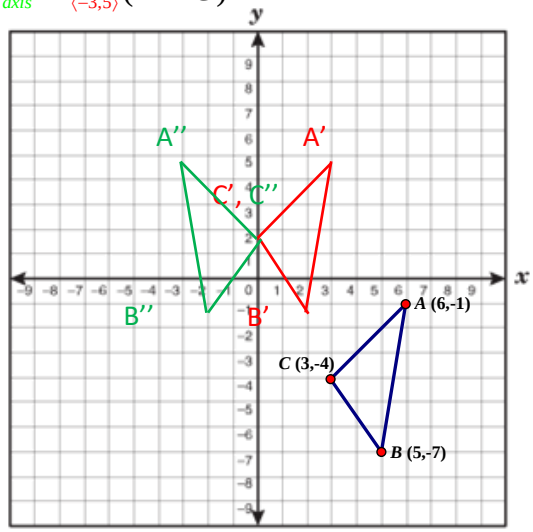
2nd 1st

1a) $T_{\langle -3,5\rangle} \circ R_{y\ axis}(\Delta ABC)$



2nd 1st

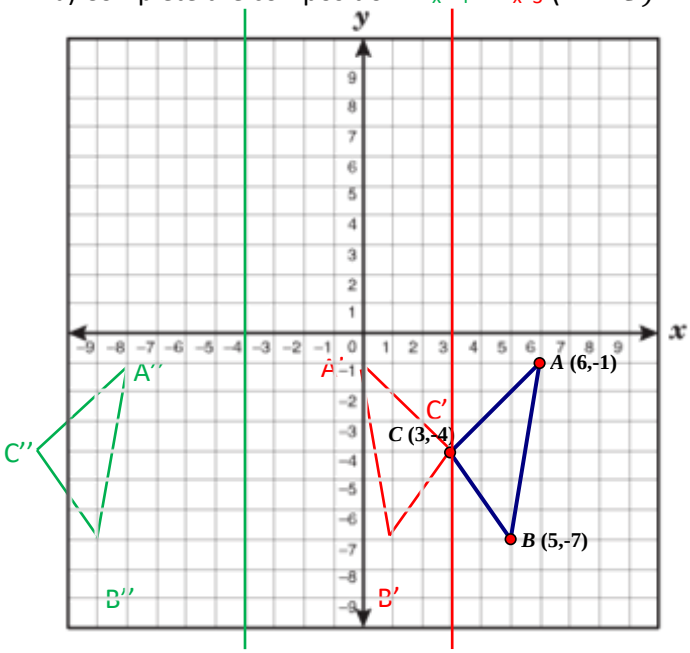
b) $R_{y\ axis} \circ T_{\langle -3,5\rangle}(\Delta ABC)$



Yes, the final images ended up in different spots

2nd 1st

2a) Complete the composition: $R_{x=-4} \circ R_{x=3}\ (\Delta ABC)$



2b) What single transformation would map ΔABC onto $\Delta A"B"C"$ from #2a? Describe this transformation as completely as possible.

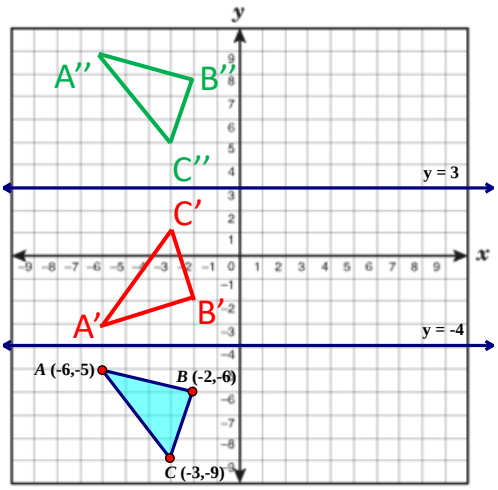
Translation left 14

$T_{<-14,0>}$

Do 2nd Do 1st

3a) $R_{y=3} \circ R_{y=-4}(\Delta ABC)$

$\Delta A"B"C"$?



3b) Circle the resultant transformation from ΔABC to

Rotation Reflection Translation

3c) Describe the transformation completely.

Moves 14 units up, $T_{<0,14>}$, (x,y)⟶ (x,y+14)

4a) Review the transformations from #2a & #3a. Is there a relationship between the distance the shape has translated and the parallel lines used in the reflections? If so, what relationship is there?

Distance translated = double distance between parallel lines

4b) What determines the direction of the translation?

The order of the translation