

Composition of Reflections - NOTES

In $\triangle PQR$, the points are located at: $P(3, 5)$, $Q(9, -5)$, and $R(-7, 7)$. Find the composition of transformations after a 90° rotation, then a reflection about the x-axis, then a dilation of 3.

	$(3, 5)$	$(9, -5)$	$(-7, 7)$
90°	$(5, -3)$	$(-5, -9)$	$(7, 7)$
x-axis	$(5, 3)$	$(-5, 9)$	$(7, -7)$
Dilate 3	$(15, 9)$ $(-15, 27)$ $(21, -21)$		
	$P'(15, 9)$	$Q'(-15, 27)$	$R'(21, -21)$

P is located at $(5, -2)$. Perform the following composition of transformations by rotating the image 180° clockwise, then reflect about the origin, and then translate using $(x + 2, y - 3)$



	$P(5, -2)$
180°	$(-5, 2)$
reflect origin	$(5, -2)$
$(x+2, y-3)$	$(7, -5)$
	$P'(7, -5)$

M is located at $(-4, 0)$. Perform the following composition of transformations by reflecting it across the y-axis, then translating it using the translation $(x + 6, y - 2)$, and then dilate it with a scale factor of $\frac{1}{2}$.

	$M(-4, 0)$
y-axis	$(4, 0)$
$(x+6, y-2)$	$(10, -2)$
$\frac{1}{2}$	$(5, -1)$
	$M'(5, -1)$