

Unit 2 Transformations and Congruence
Lesson 3 Composition of Transformations

Name _____

Directions: Use graph paper to perform the following transformations. Fill in the chart with the coordinates of the image. Attach your graph paper to the worksheet!

1. Pre-image: A(0,0), B(8,1), C(5,5)

Rotate the figure 180°	
Reflect the figure over the x-axis	
Translate the figure according to $(x,y) \rightarrow (x+6,y-1)$	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	

2. Pre-image: D(-12,6), E(-4,6), F(-6,9), G(-10,9)

Translate the figure according to $(x,y) \rightarrow (x+1,y-6)$	
Reflect the figure over the x-axis	
Reflect the figure over the y-axis	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	

3. Pre-image: H(2,2), I(-2,2), J(-2,-2), K(2,-2)

Rotate the figure 180°	
Translate the figure according to $(x,y) \rightarrow (x+2,y+2)$	
Reflect the figure over the line $y = x$	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	

4. Pre-image: L(7,2), M(0,9), N(-6,-5), P(1,-12)

Reflect the figure over the y-axis	
Reflect the figure over the x-axis	
Rotate the figure 90° clockwise about the origin	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	

5. Pre-image: Q(0,0), R(-13,0), S(0,12)

Rotate the figure 270° clockwise about the origin	
Translate the figure according to $(x,y) \rightarrow (x+5,y+5)$	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	

6. Pre-image: T(6,-3), U(8,-5), V(7,-7), W(5,-7), X(4,-5)

Translate the figure according to $(x,y) \rightarrow (x-4,y+3)$	
Reflect the figure over the line $y = x$	
Rotate the figure 180°	
Write an algebraic rule to take $(x,y) \rightarrow (x',y')$	