For EACH problem, your transformations will follow one after the other; you will NOT restart with the initial pre-image each time.

Directions: Use graph paper to perform the following transformations. Fill in the chart with the coordinates of the image. Keep this sheet with your work in your notebook.

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

Rotate the figure 180°	A' (,) B' (,) C' (,)
Reflect the figure over the x-axis	A" (,) B" (,) C" (,)
Translate the figure 6 units right & 1 unit down	A"' (,) B"' (,) C"' (,)

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

Translate the figure according to (x,y)→(x+1,y-4)	D' (,) E' (,) F' (,) G' (,)
Reflect the figure over the x-axis	D" (,) E" (,) F" (,) G" (,)
Reflect the figure over the y-axis	D"' (,) E"' (,) F"' (,) G"' (,)

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

Rotate the figure 180°	H' (,) I' (,) J' (,) K' (,)
Translate the figure according to (x,y)→(x+2,y+2)	H" (,) I" (,) J" (,) K" (,)
Reflect the figure over the line $y = -1$	H"' (,) I"' (,) J"' (,) K"' (,)

4. Pre-image: L(6,1), M(0,9), N(-6,-3), P(3,-12)

Dilate the figure with scale factor of 1/3	L' (,) M'(,) N' (,) P' (,)
Translate the figure 7 units left & 10 units up	L" (,) M" (,) N" (,) P" (,)
Rotate the figure 90° clockwise about the origin	L"' (,) M"' (,) N"' (,) P"' (,)