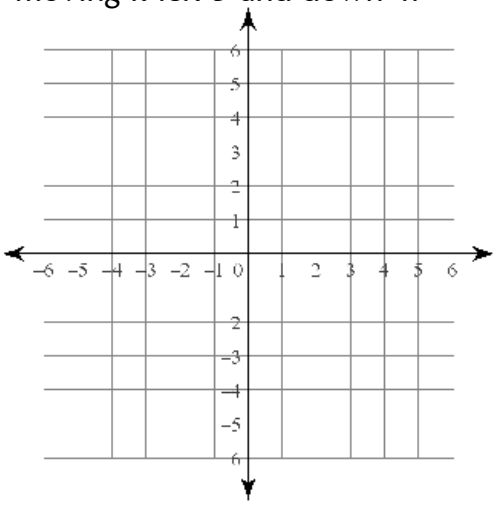
Geometry – Multiple Transformations Name: _____

You should already know how to do the following:

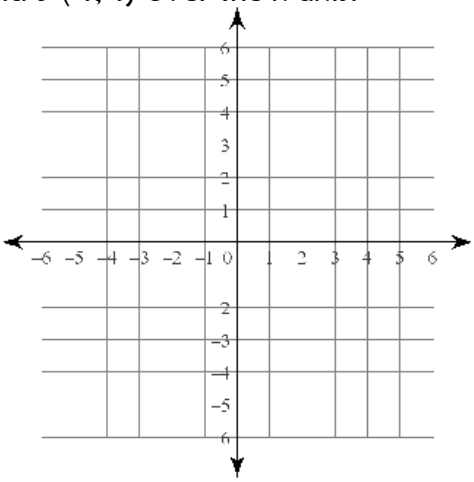
- Translations (slides)
- Reflections (flips, like with a mirror)
- Rotations (spins or turns)
- Dilations (stretches or shrinks)

Let's review to get "warmed-up".

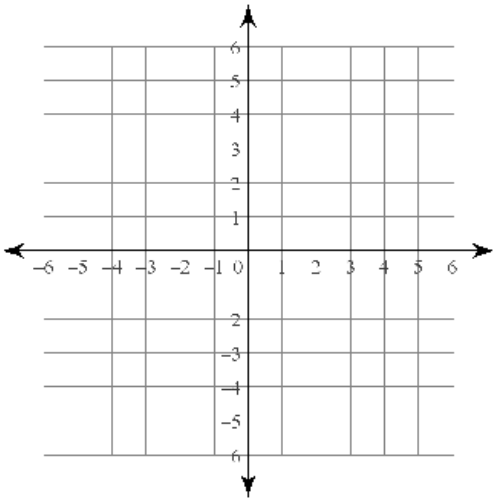
1) Translate ΔQRS if Q(4,1), R(1,-2), S(2,3) by moving it left 3 and down 4.



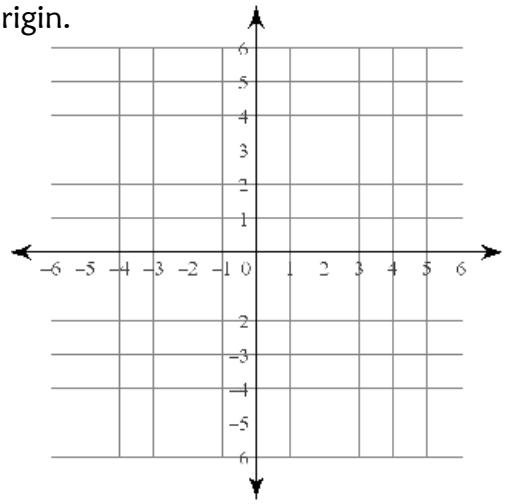
2)Reflect $\Delta Q'R'S'$ if Q'(1,-3), R'(-2,-6), and S'(-1,-1) over the x-axis.



3) Rotate ΔCAR if C(-1,-4), A(2,6), R(-4,-2) 180^o around the origin.



4) Dilate $\Delta C'A'R'$ if C'(2,4), A'(-2,-6), and R'(4,2) by a scale factor of ½ from the origin.

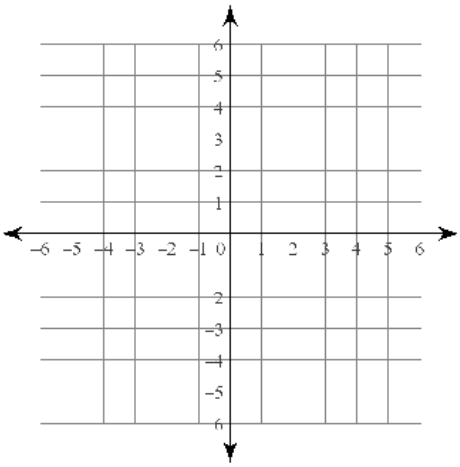


5) What did you notice in problems 1&2 and problems 3&4? How were the shapes related? Explain how you could transform ΔQRS by translating it left 3 and down 4 and then reflecting the image over the x-axis. Where does the final image end up?

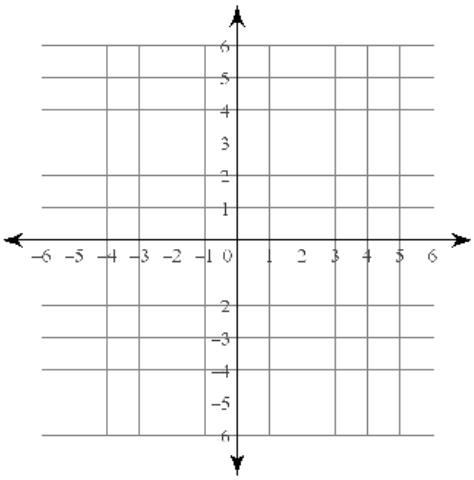
6) How would you rotate ΔCAR 180^o about the origin and then dilate it by a scale factor of ½?

7. Now you are going to try some multiple transformations:

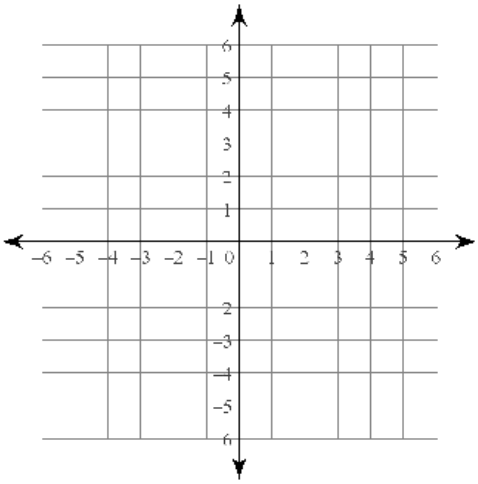
a) Translate ΔALT if A(-5,-1), L(-3,-2), T(-3,2) by moving it right 6 and down 3, then reflect the image over the y-axis.



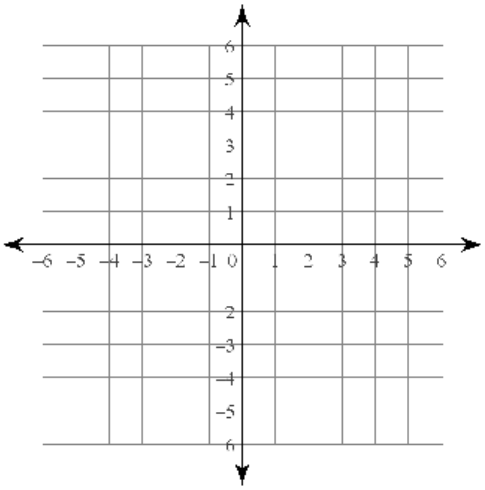
b)Reflect ΔTAB if T(2,3), A(1,1), and B(4,-3) over the x-axis, then reflect the image over the y-axis.



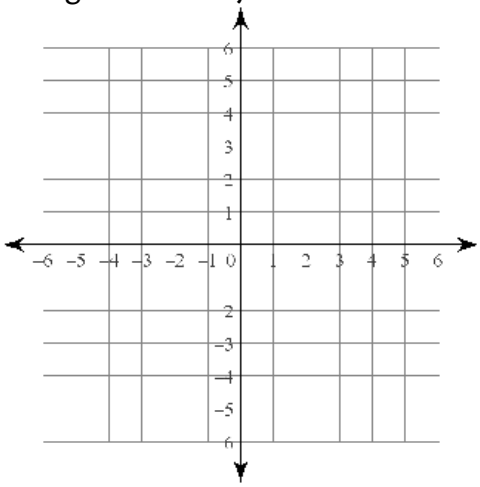
c) Rotate ΔALT if A(-5,-1), L(-3,-2), T(-3,2) 90^o clockwise around the origin, then reflect the image over the x-axis.



d)Reflect ΔTAB if T(2,3), A(1,1), and B(4,-3) over the y-axis, then translate the image by moving it right 2 and down 1.



e) Rotate ΔALT if A(-5,-1), L(-3,-2), T(-3,2) 180^o clockwise around the origin, then reflect the image over the y-axis.



f)Reflect ΔTAB if T(2,3), A(1,1), and B(4,-3) over the x-axis, then translate the image by moving it left 5 and down 4.