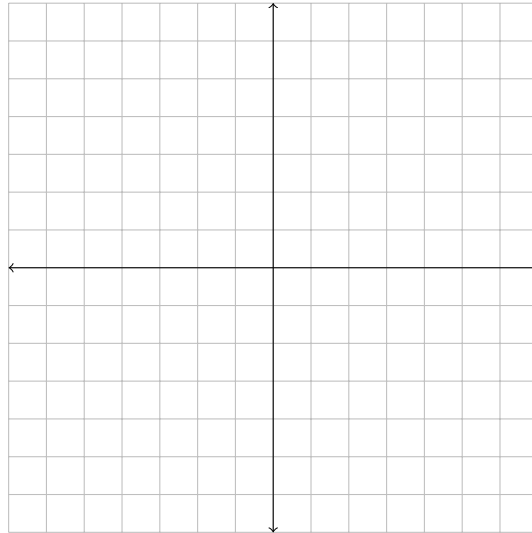


Names: _____

College Algebra Activity #2: Transformations

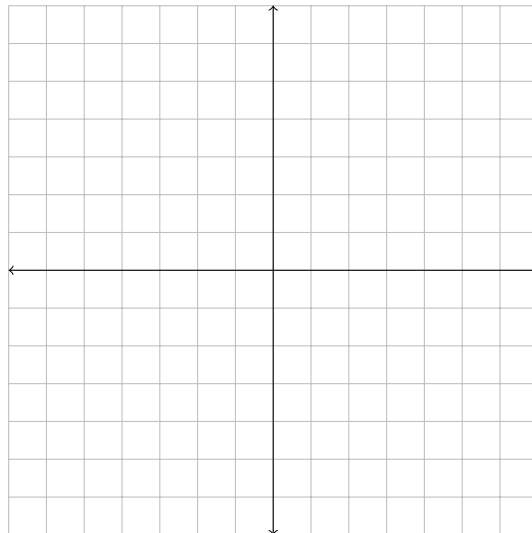
1. Sketch the graph of the following equation in the space provided.

$$(x - 2)^2 + (y + 2)^2 = 1$$



2. Sketch the graph of the following equation in the space provided.

$$\left(\frac{1}{3}(x + 3)\right)^2 + (y - 4)^2 = 1$$

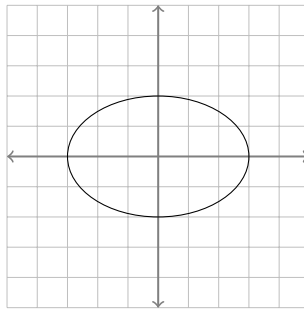


3. Fill in the boxes in the following statement.

Replacing all the x s in an equation by and all the y s by will shift the equation's graph right by 3 units followed by a horizontal stretch by a factor of 3, and will shift the graph up by 1 units followed by a vertical stretch by a factor of 2.

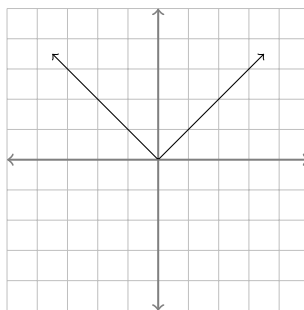
4. Graphically transform the following graph in the space provided.

Shift right by 1 unit(s) and shift down by 2 unit(s).

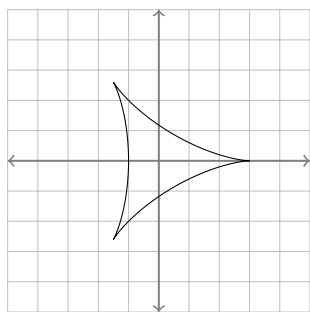


5. Graphically transform the following graph in the space provided.

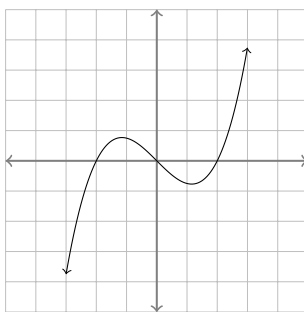
Stretch vertically by a factor of $1/2$.



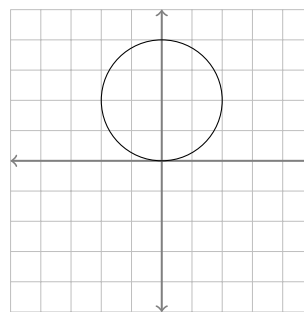
6. Determine whether or not the following graphs are symmetric across the x -axis, across the y -axis, or about the origin.



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no



x -axis: yes/no
 y -axis: yes/no
 origin: yes/no

7. Determine whether or not the following equations are symmetric across the x -axis, across the y -axis, about the origin, or none of the three.

(a) $x^3 = y^2 + 1$

(b) $y^3 = xy - 3$

(c) $x^3 + y = 1$