

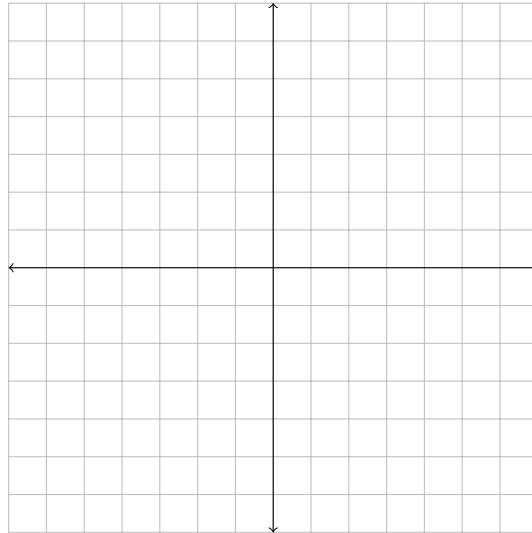
Names: _____

Activity #2: Transformations

College Algebra

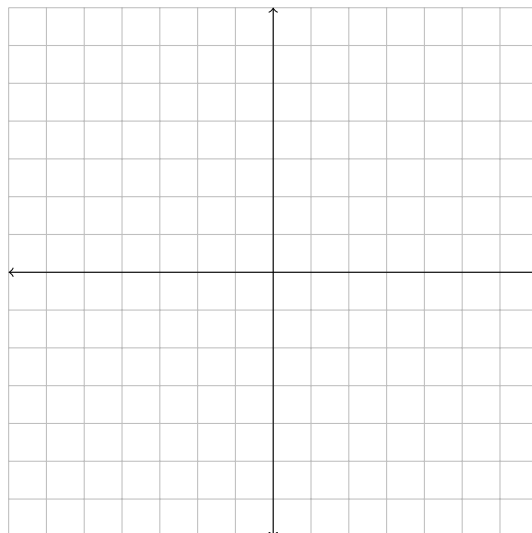
1. Sketch the graph of the following equation in the space provided.

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



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

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

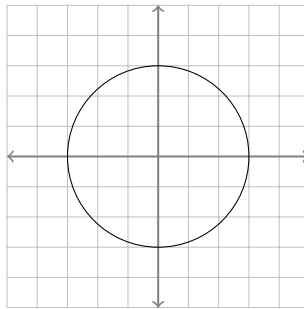


3. Fill in the boxes in the following statement.

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

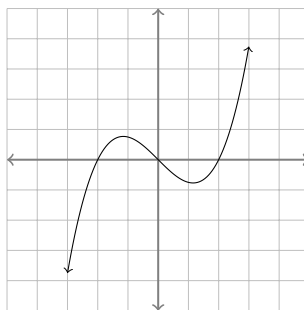
4. Graphically transform the following graph in the space provided.

Shift left by 1 unit(s) and shift up by 3 unit(s).

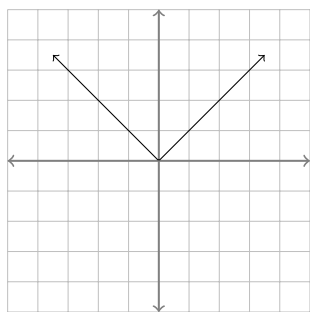


5. Graphically transform the following graph in the space provided.

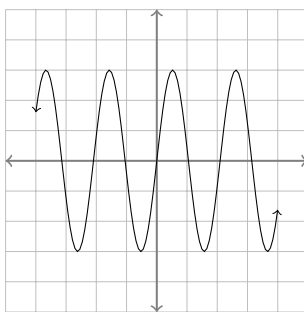
Stretch horizontally by a factor of $1/2$.



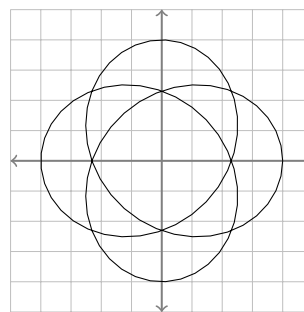
6. Determine whether or not the following graphs are symmetric across the x -axis, across the y -axis, or about the origin.



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) $x^3 + y = 1$

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

(c) $\frac{1}{x^2} + \frac{1}{y} = xy$