

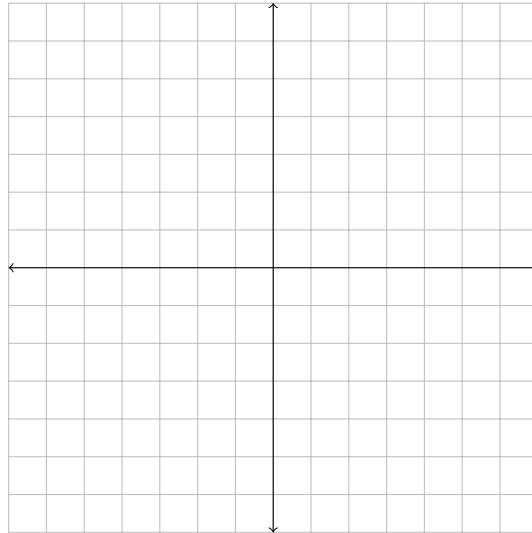
Names: _____

Activity #2: Transformations

College Algebra

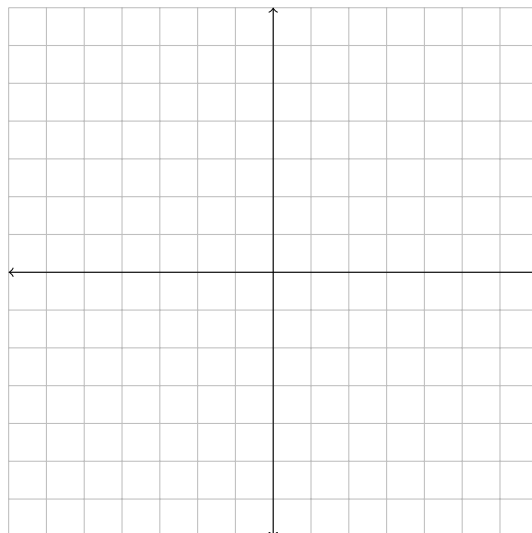
1. Sketch the graph of the following equation in the space provided.

$$(x + 2)^2 + (y + 5)^2 = 4$$



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

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



3. Fill in the boxes in the following statement.

Replacing all the x s in an equation by

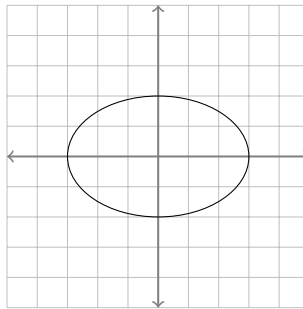
and all the y s by

will shift

the equation's graph left by 1 units followed by a horizontal stretch by a factor of 2, and will shift the graph down by 4 units followed by a vertical stretch by a factor of 3.

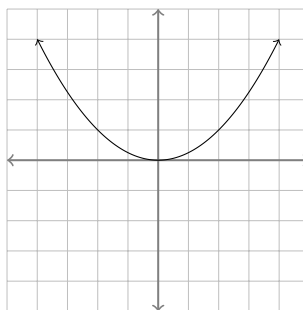
4. Graphically transform the following graph in the space provided.

Shift right by 3 unit(s) and shift down by 3 unit(s).

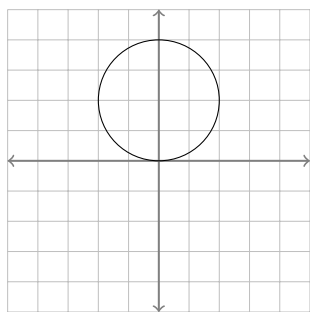


5. Graphically transform the following graph in the space provided.

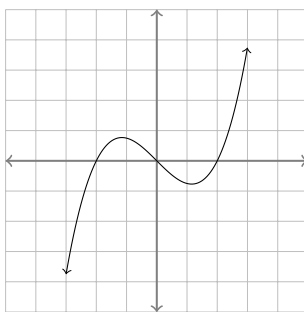
Stretch horizontally by a factor of 2.



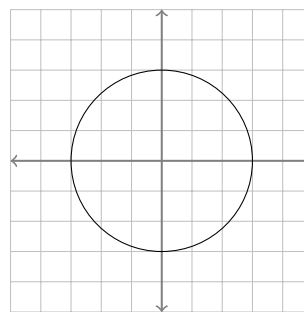
6. Determine whether or not the following graphs are symmetric across the x -axis, across the y -axis, or about the origin.



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) $xy + y^2 = 2$

(b) $x^2y + xy^2 = 1$

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