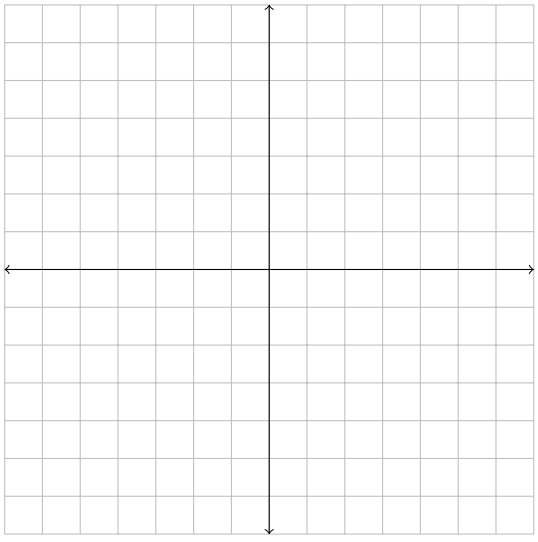
Name: _____

College Algebra: Review (Test 2)

1. Find an equation for the line passing through the point $(7, -2)$ and having slope $2/3$.

2. Find the slope between the points $(6, -7)$ and $(-6, 6)$.

3. Plot the graph of the linear equation $y = \frac{1}{4}x + 1$ on the plane below.



4. Solve the following system of equations.

$$\begin{cases} 4y + 4x &= 6 \\ -6y + 2x &= 4 \end{cases}$$

5. Solve the following system of equations.

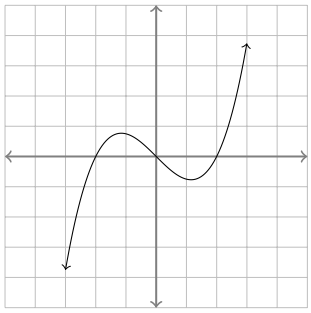
$$\begin{cases} \frac{4}{5}y + \frac{1}{5}x &= 9 \\ \frac{1}{2}y + \frac{1}{2}x &= 2 \end{cases}$$

6. Find an equation for the circle centered at $(6, -6)$ and having radius 6.

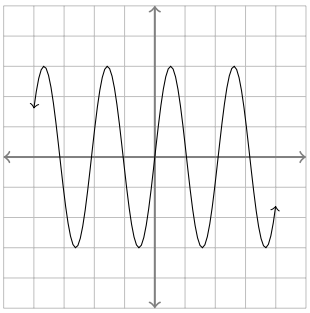
7. Find an equation for the circle centered at $(6, 2)$ and passing through $(-5, 4)$.

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

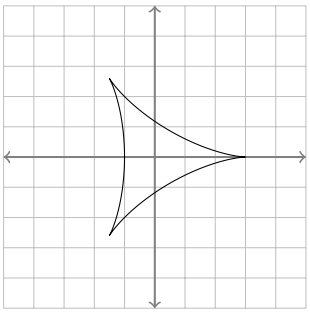
Shift left by 2 unit(s) and shift down by 1 unit(s).



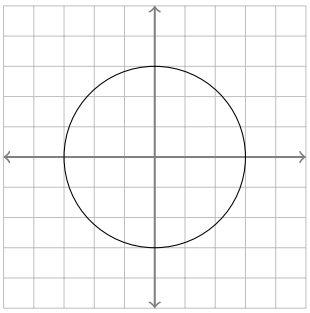
9. Determine whether or not the following graphs are symmetric across the x-axis, across the y-axis, or about the origin.



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

10. Find the zeros of the following function: $f(x) = x^2 - 4x + 3$

11. Find the zeros of the following function: $f(x) = 2x^2 - 9x + 9$

12. 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) $y^3 - 1 = x^3 - 2$

(b) $x^4 + y^4 = 1$

(c) $y^2 = x^3 - x$

13. Find the average rate of change of $f(x) = x^3 - 2x + 4$ from $x_1 = 0$ to $x_2 = 2$.