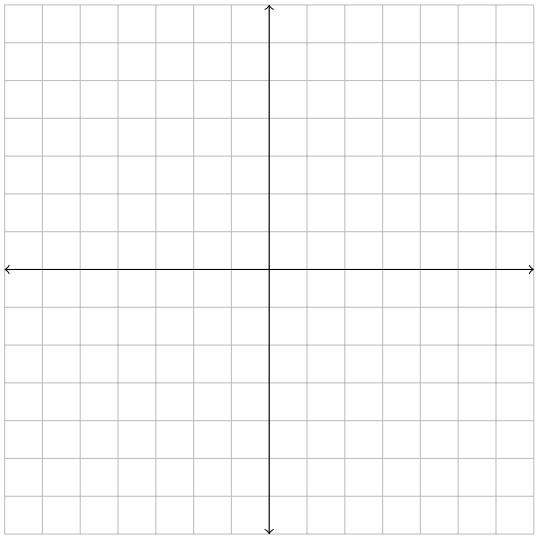
Name: _____

College Algebra: Review (Test 2)

1. Find an equation for the line passing through the point $(-1, 6)$ and having slope -2/5.

2. Find the slope between the points $(1, -2)$ and $(-2, -2)$.

3. Plot the graph of the linear equation $y = \frac{-1}{4}x + 2$ on the plane below.



4. Solve the following system of equations.

$$\begin{cases} 6y - 2x &= 8 \\ 3y - 2x &= 7 \end{cases}$$

5. Solve the following system of equations.

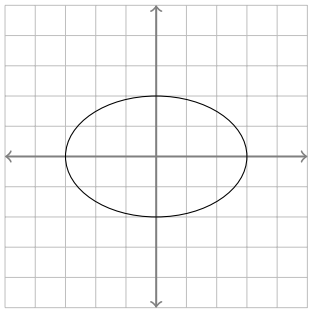
$$\begin{cases} \frac{1}{3}y + \frac{4}{5}x &= 1 \\ \frac{1}{2}y + \frac{4}{5}x &= 3 \end{cases}$$

6. Find an equation for the circle centered at $(1, -7)$ and having radius 7.

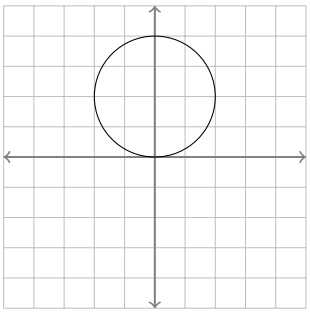
7. Find an equation for the circle centered at $(3, -5)$ and passing through $(-2, -1)$.

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

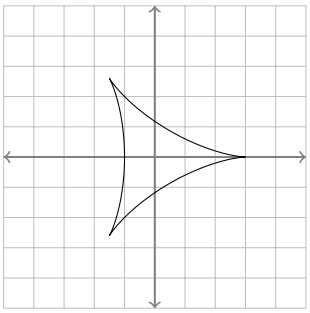
Shift left by 3 unit(s) and shift up by 1 unit(s).



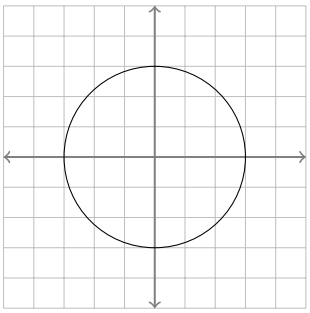
9. Determine whether or not the following graphs are symmetric across the x-axis, across the y-axis, or about the origin.



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: $f(x) = x^2 - x - 20$

11. Find the zeros of the following function: $f(x) = 2x^2 - 11x + 12$

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

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

(c) $xy + y^2 = 2$

13. Find the average rate of change of $f(x) = x^3 + x + 1$ from $x_1 = 1$ to $x_2 = 3$.