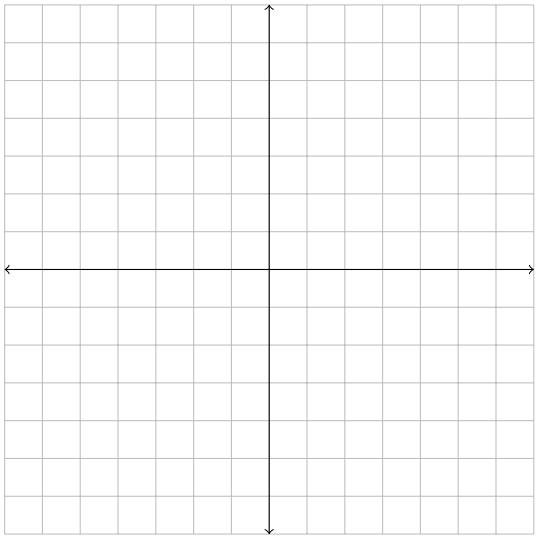
Name: _____

College Algebra: Review (Test 2)

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

2. Find the slope between the points $(6, -6)$ and $(-3, -2)$.

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.

$$\begin{cases} -6y - 2x &= 10 \\ -2y + 2x &= 6 \end{cases}$$

5. Solve the following system of equations.

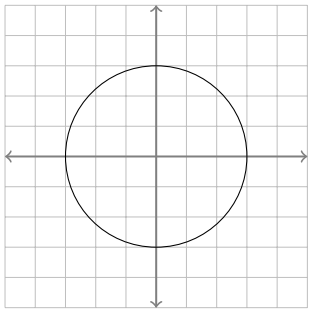
$$\begin{cases} \frac{2}{3}y + \frac{2}{5}x &= 4 \\ \frac{1}{5}y + \frac{2}{5}x &= 9 \end{cases}$$

6. Find an equation for the circle centered at $(3, 3)$ and having radius 3.

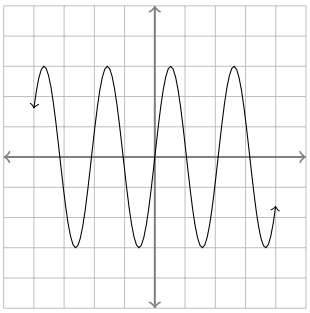
7. Find an equation for the circle centered at $(2, 6)$ and passing through $(-3, 6)$.

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

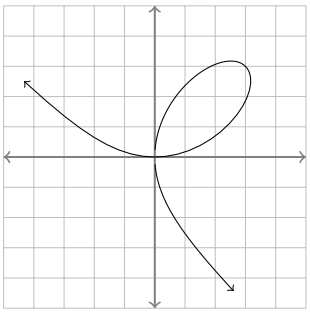
Shift left by 2 unit(s) and shift down by 3 unit(s).



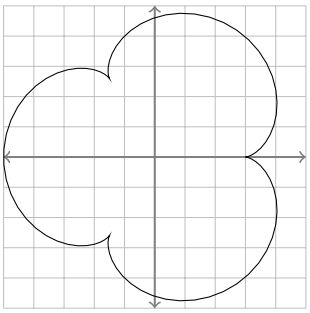
9. Determine whether or not the following graphs are symmetric across the x-axis, across the y-axis, or about the origin.



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

11. Find the zeros of the following function: $f(x) = 2x^2 - 11x + 5$

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) $y^3 = xy - 3$

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

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

13. Find the average rate of change of $f(x) = x^3 - x + 1$ from $x_1 = 0$ to $x_2 = 3$.