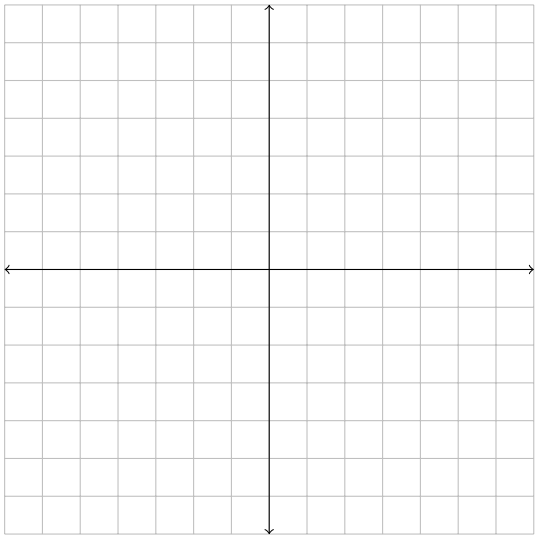
Name: _____

College Algebra: Review (Test 2)

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

2. Find the slope between the points $(2, 3)$ and $(-4, -4)$.

3. Plot the graph of the linear equation $y = \frac{-4}{5}x + 1$ on the plane below.



4. Solve the following system of equations.

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

5. Solve the following system of equations.

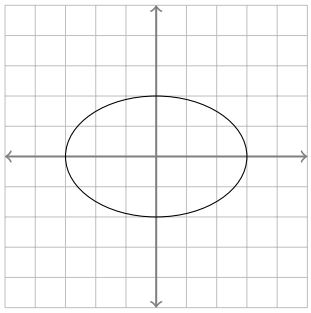
$$\begin{cases} \frac{1}{2}y + \frac{1}{5}x &= 8 \\ \frac{1}{3}y + \frac{2}{5}x &= 6 \end{cases}$$

6. Find an equation for the circle centered at $(4, 7)$ and having radius 4.

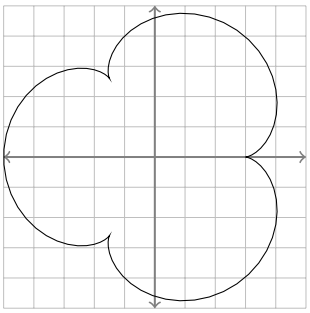
7. Find an equation for the circle centered at $(5, 5)$ and passing through $(-5, -3)$.

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

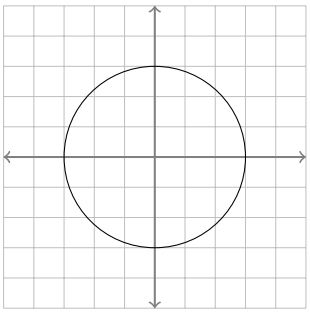
Shift right by 1 unit(s) and shift up by 1 unit(s).



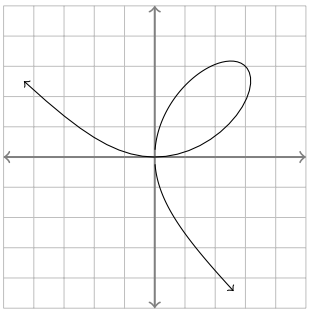
9. Determine whether or not the following graphs are symmetric across the x-axis, across the y-axis, or about the origin.



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: $f(x) = x^2 + 3x - 10$

11. Find the zeros of the following function: $f(x) = 2x^2 - 5x + 3$

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

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

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