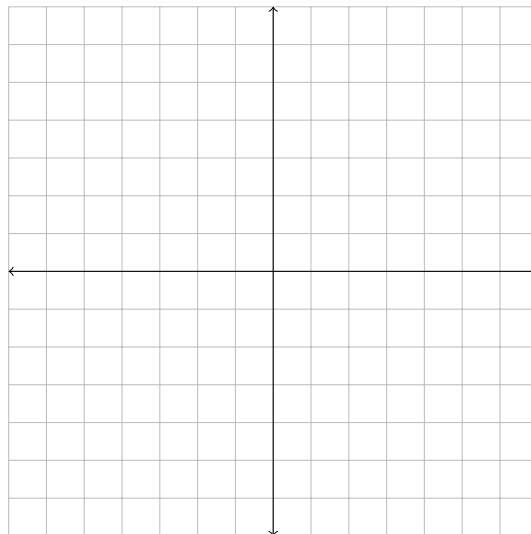**Activity #1: Lines and Circles**   **College Algebra**

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

2. Find the slope between the points $(7, 6)$ and $(-3, 3)$.

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

4. Solve the following system of equations.

$$\begin{cases} 5y - x &= 6 \\ 2y - 3x &= 7 \end{cases}$$

5. Solve the following system of equations.

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

6. Find an equation for the circle centered at $(2, 3)$ and having radius 4.

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