

Homework 3

Slope, Equations of Lines, and Graphing

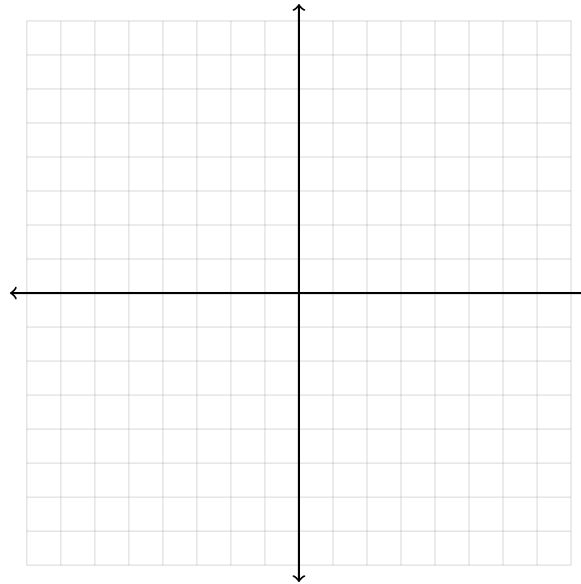
Name: _____

Write each equation in slope-intercept form whenever possible. Show all work clearly and graph each line accurately.

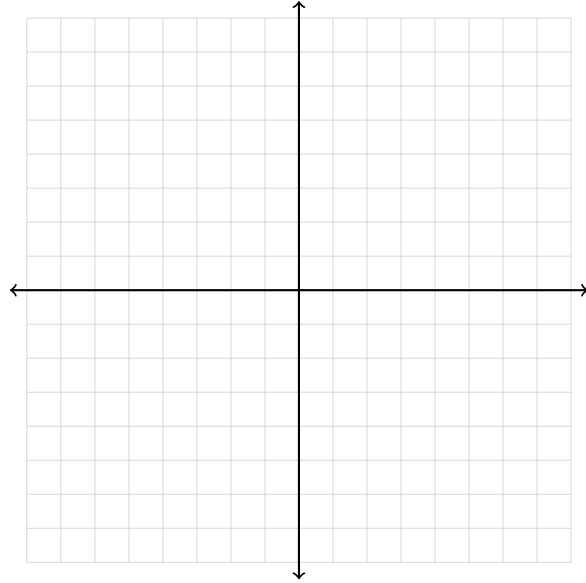
Part I: Find the Equation and Graph

Find the equation of the line in slope-intercept form and graph the line.

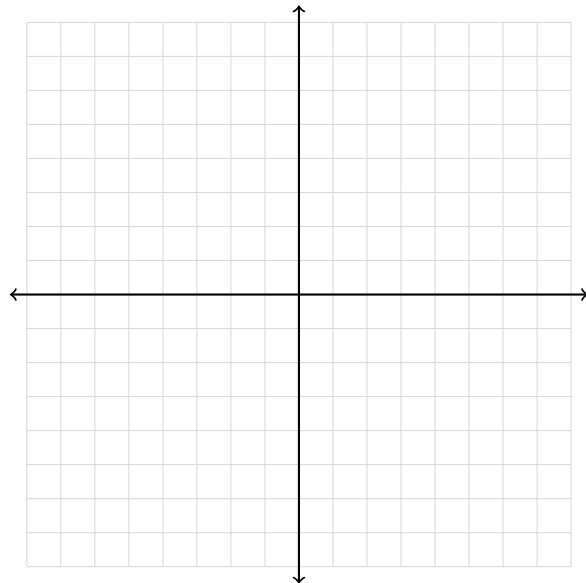
1. Through the points $(3, -2)$ and $(-6, -8)$



2. Through the points $(-6, 10)$ and $(9, -10)$

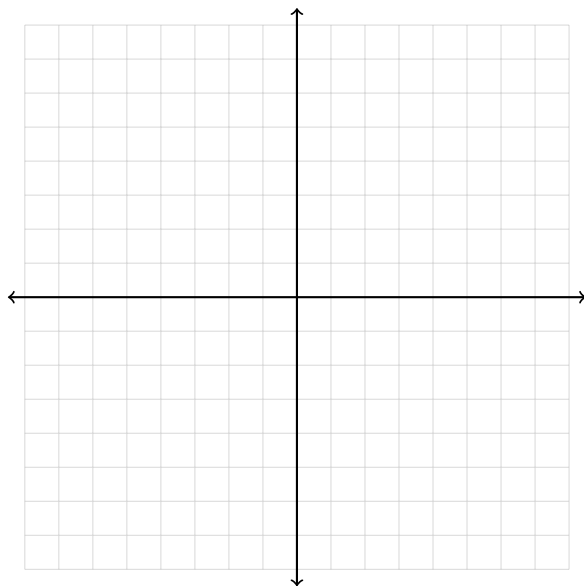


3. Slope $m = 4$, passing through $(-2, -5)$



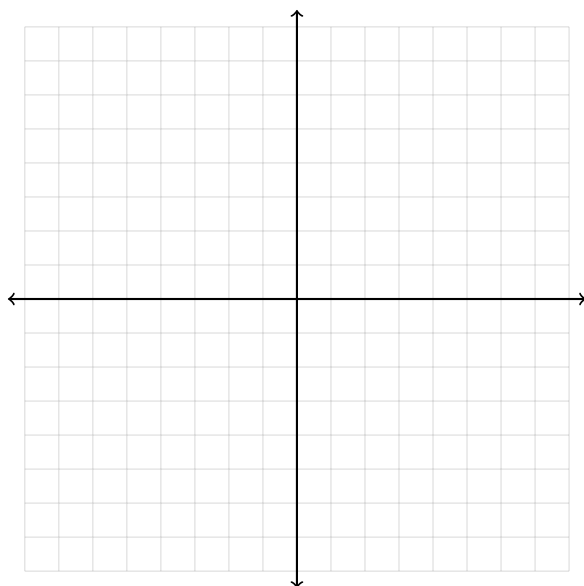
4.

$$16x - 4y = 36$$

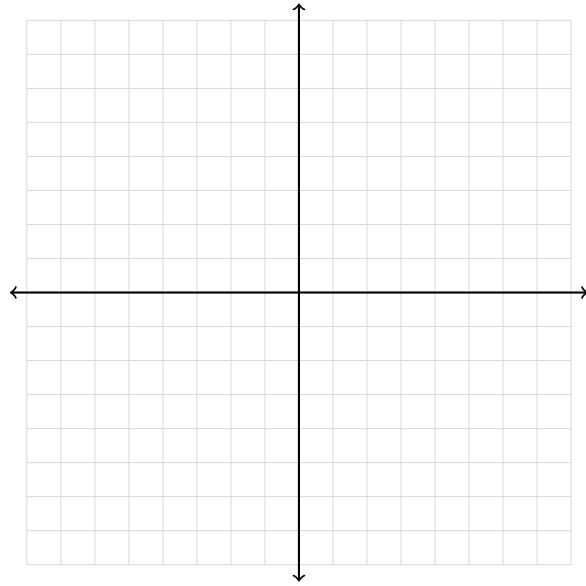


5.

$$8x + 24y = 96$$



6. Find the equation of the vertical line passing through $(-6, 5)$.



Part II: Graphing Lines

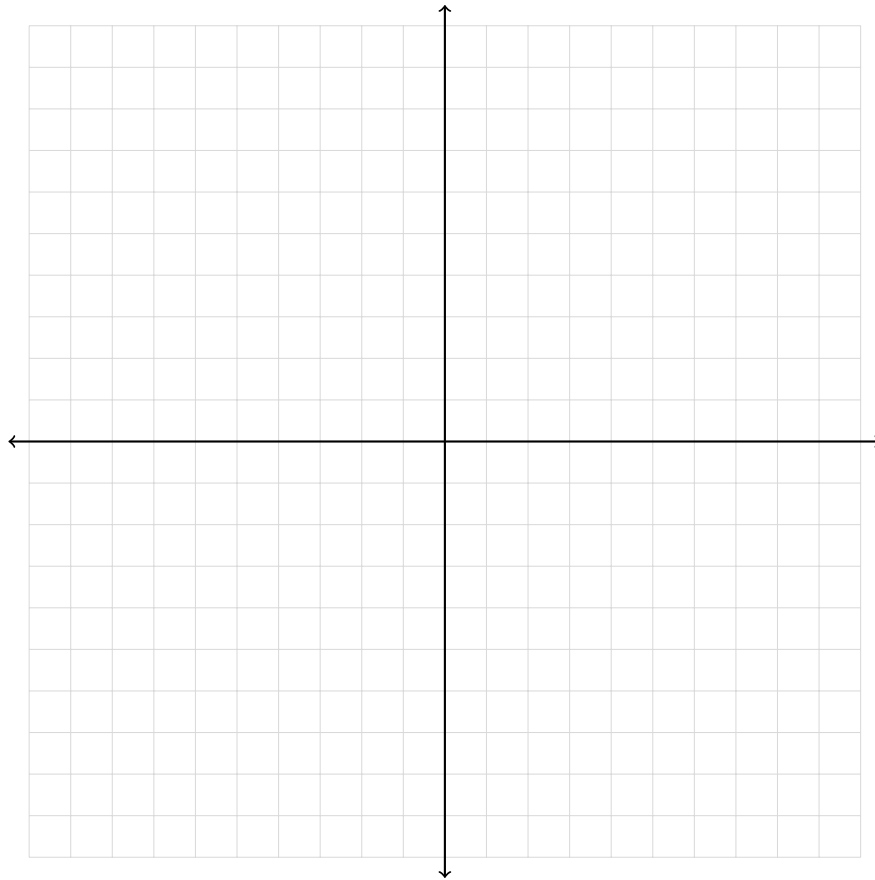
Graph both lines on the same coordinate plane.

(a)

$$y = -2x + 6$$

and

$$y = -2x - 5$$

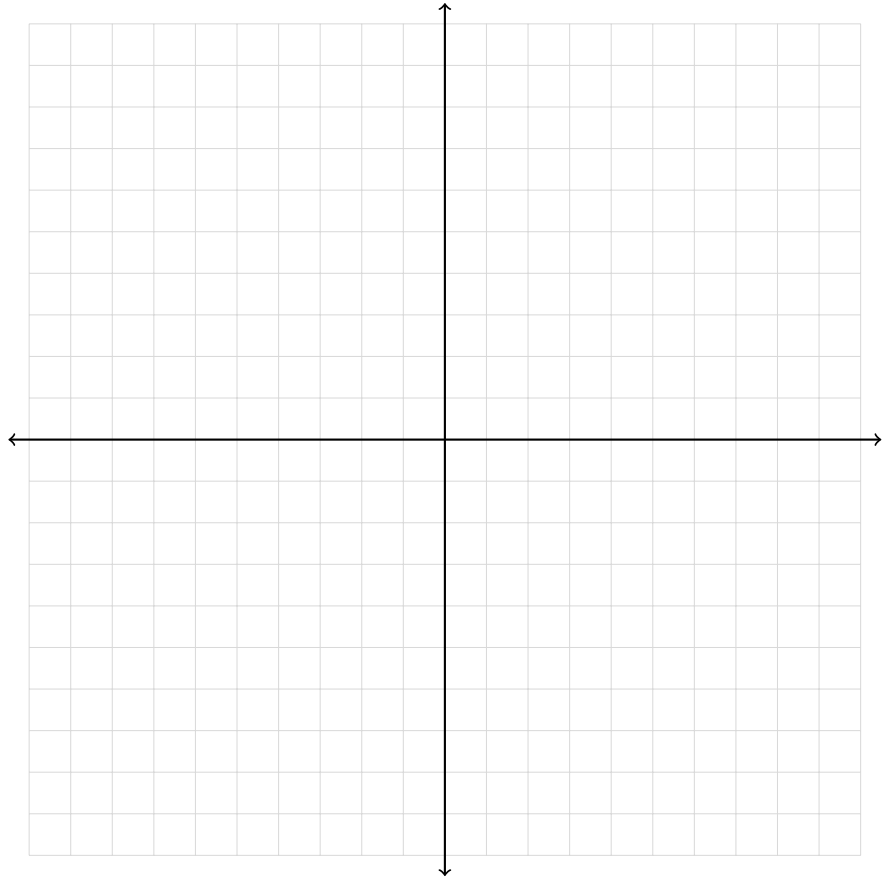


(b)

$$y = \frac{1}{2}x + 3$$

and

$$y = -x + 2$$



Part III: Equations of Parallel and Perpendicular Lines

- (a) Use the points $(-5, 13)$ and $(3, -3)$ to find the equation of the line in slope-intercept form.

- (b) Find the equation of the line parallel to

$$y = 3x - 2$$

passing through $(-2, 1)$.

- (c) Find the equation of the line perpendicular to

$$y = 2x - 1$$

passing through $(4, 5)$.

ii. What will the total cost be after 8 months?