

Warm-Up Notes

MAT 100: ELEMENTARY ALGEBRA

— Fall 2026 —

SECTION 4.2 GRAPH LINEAR EQUATIONS IN TWO VARIABLES

Install — 10 minute lesson

Objectives of this Section

- Recognize the relationship between the solutions of an equation and its graph
- Graph a linear equation by plotting points
- Graph vertical and horizontal lines

Skills**Introduced in this section:**

- **LIN.GL** — Graphing a Line

Also practiced: NUM.EV (Evaluating Expressions), WRD.NM (Naming the model).

Lesson

Every solution to a linear equation is a point, and when you plot all the solutions together they line up perfectly to form a straight line. That line is the graph of the equation — you don't need to find dozens of solutions to draw it, just enough points to see where it goes.

I do

Watch. Graph the line described by the equation below by plotting two points that lie on the line and drawing the line through them. $y = -3x + 1$

We do

Together. Graph the two lines $y = 5x$ and $y = 5$ on the same coordinate plane.
 $y = 5x$ and $y = 5$

You do

Your turn. Graph the line $x - y = 3$ on the coordinate plane. $x - y = 3$

Your turn. Graph the line described by the equation below by plotting two points that lie on the line and drawing the line through them. $y = \frac{4}{3}x - 5$

Practice

1. Graph the line described by the equation below by plotting two points that lie on the line and drawing the line through them.

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

2. Graph the horizontal line $y = 5$ on the coordinate plane. $y = 5$

3. Graph the line described by the equation below by plotting two points that lie on the line and drawing the line through them.

$$y = -x - 2$$

4. Graph the line described by the equation below by plotting two points that lie on the line and drawing the line through them.

$$2x - 5y = 10$$