

7.1 Solving Linear Systems

Need To Know



- Idea of a system
- Types of systems
- Review of Graphing Lines
- How to solve systems by graphing

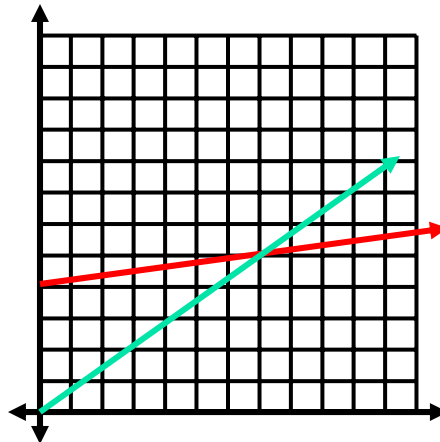
The Idea of a System

Business:

Cost = equation #1

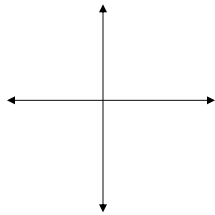
Income = equation #2

A solution to a system
of linear equations is

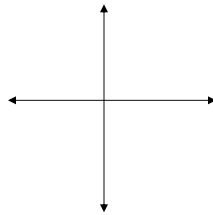


Types of Systems

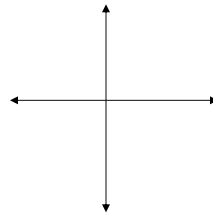
Inconsistent



Consistent



Consistent



Review Graphing Lines

Types of Linear Equations

Standard Form

$$Ax + By = C$$

Slope-Intercept Form

$$y = mx + b$$

Point-Slope Form

$$y - y_1 = m(x - x_1)$$

Vertical Line $x = \text{number}$

Horizontal Line $y = \text{number}$

Ways to Graph Lines

1. Use $y = mx + b$

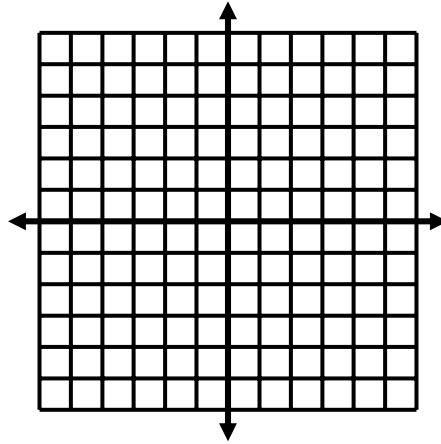
- Graph the y-intercept pt.
- Use the slope = rise/run

2. Make a table of 3 points

- Pick an easy x value
- Plug it in
- Solve for the y value

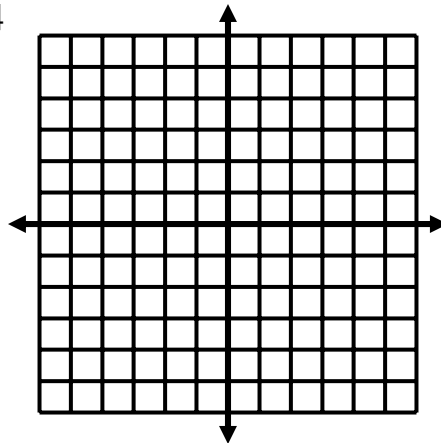
Solve the System by Graphing

$$x + y = 3 \text{ and } x - y = 5$$



Solve the System by Graphing

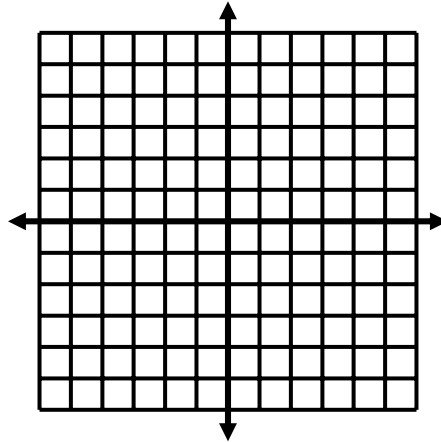
$$x + 2y = 6 \text{ and } 3x - y = 4$$





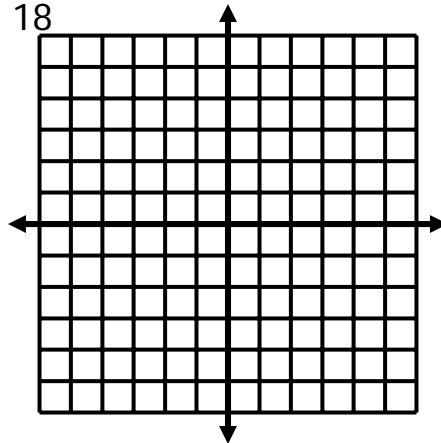
Solve the System by Graphing

$$x = 2 \quad \text{and} \quad y = 3x - 1$$



Solve the System by Graphing

$$x + 2y = 8 \quad \text{and} \quad 3x + 6y = 18$$





7.1 Conclusion

- Graph both lines
- Find the point(s) of intersection
- Explain your solution
- Use graph paper or a ruler to graph carefully. Messy graphs will not reveal the correct solution.