

Name: _____

Date: _____

Algebra 1

Band: _____

LT#5: Choose the best method for solving a system of linear equations.

Warm Up:

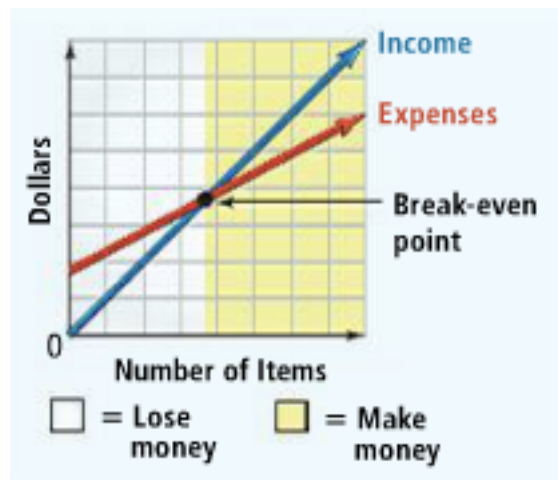
The taller candle burns at a rate of 1.15 in. per hour. The shorter candle burns at a rate of 0.75 in. per hour. After how many hours will they be the same height? Explain your reasoning.



Notes: Choosing a Method for Solving Linear Systems

Method	When to Use
Graphing	
Substitution	
Elimination	

Break-even point:

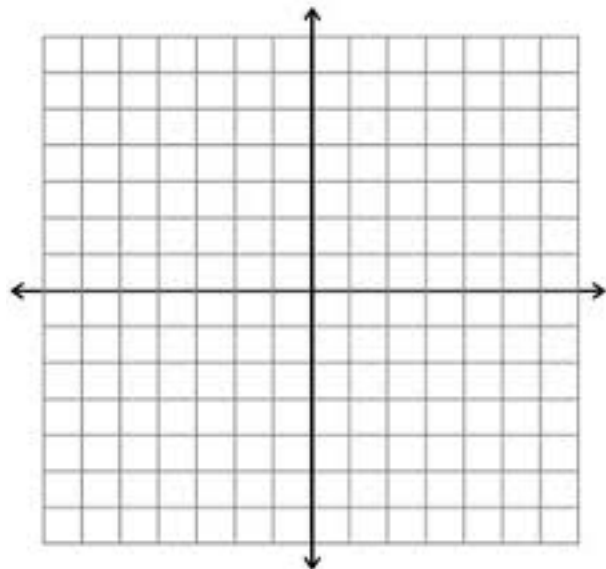


Example 1: Finding a Break-Even Point

A fashion designer makes and sells hats. The material for each hat costs \$5.50. The hats sell for \$12.50 each. The designer spends \$1400 on advertising. How many hats must the designer sell to break even?

Step 1: Write a system of equations. (Remember to define the variables!)

Step 2: Choose a method for solving the system of equations. Solve.



Notes: Real-World Situations

In real-world situations, you need to consider the **constraints** described in the problem in order to write equations. Once you solve an equation, you need to consider the **viability** of the solution.

Example 2: Identifying Constraints and Viable Solutions

The local zoo is filling two water tanks for the elephant exhibit. One water tank contains 50 gal of water and is filled at a constant rate of 10 gal/h. The second water tank contains 29 gal of water and is filled at a constant rate of 3 gal/h. When will the two tanks have the same amount of water? Explain.

Step 1: Write a system of equations. (Remember to define the variables!)

Step 2: Choose a method for solving the system of equations. Solve.

