

# MA 162: Finite Mathematics - Section 2.1

Fall 2014

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## Announcements:

- Alternate Exam Request Form
- Read the last example from Chapter 1 completed notes.
- Homework 1.3/1.4 due tomorrow at 6pm.
- Homework 2.1 due Friday at 6pm.

## Review 1.3 - Supply and Demand Interpretation

Suppose the **supply** equation for a company selling computers is  $x = 3p + 15$  where  $p$  is the unit price per computer and  $x$  is the quantity supplied by the company.

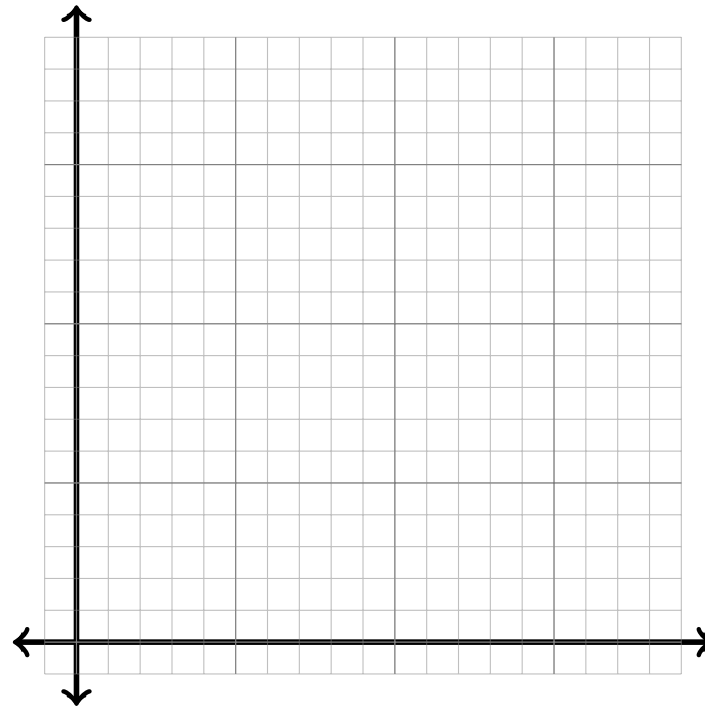
- $x$  represents the number of computers the company is willing to market if the computer is sold at price  $\$p$ .

Suppose the **demand** equation for a company selling computers is  $x = -4p + 4000$  where  $p$  is the unit price per computer and  $x$  is the quantity demanded.

- $x$  represents the numbers of computers consumers will buy if the price is set at  $\$p$ .

## Review 1.3 - Supply and Demand Interpretation

The point of intersection of the supply and demand curves for a given scenario is called the **equilibrium point**. In this case, this is the point where the number of computers consumers will buy is the same as the number of computers the company is willing to produce at the same price.



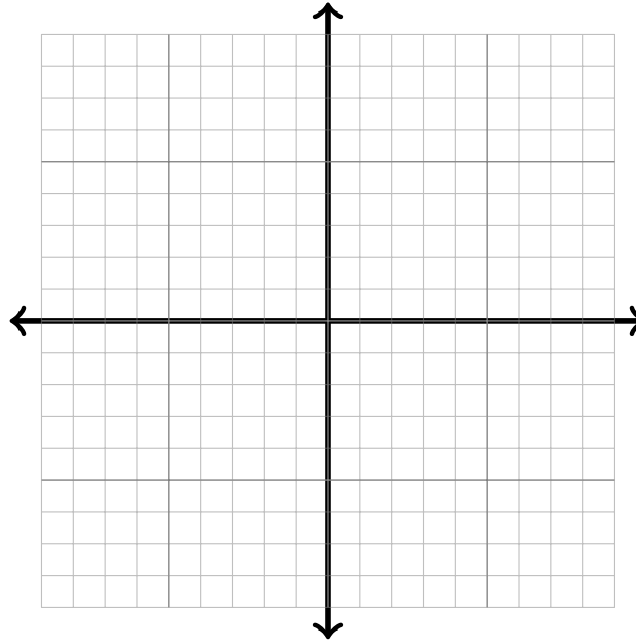
## 2.1 - Systems of Linear Equations, One Solution

Find the solution to the system of equations:

$$x + y = 7$$

$$2x - y = 2$$

## 2.1 - Systems of Linear Equations, One Solution



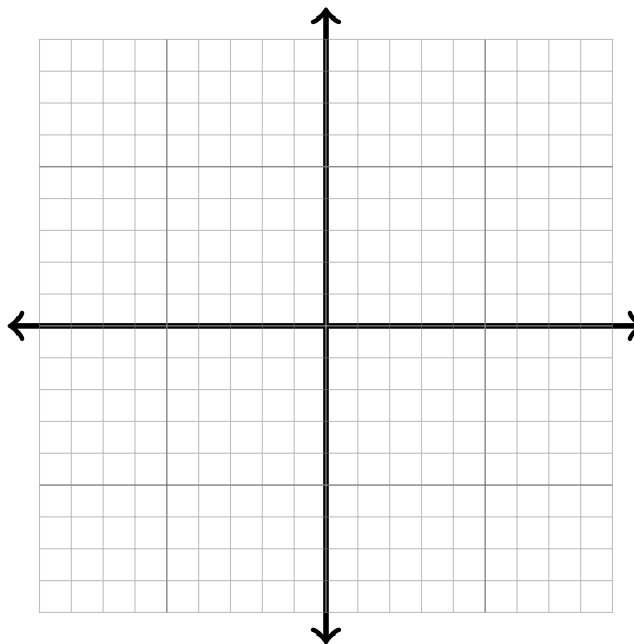
## 2.1 - Systems of Linear Equations, No Solutions

Find the solution to the system of equations:

$$x + y = 7$$

$$2x + 2y = 10$$

## 2.1 - Systems of Linear Equations, No Solution



## 2.1-Systems of Linear Equations, Infinitely Many Solutions

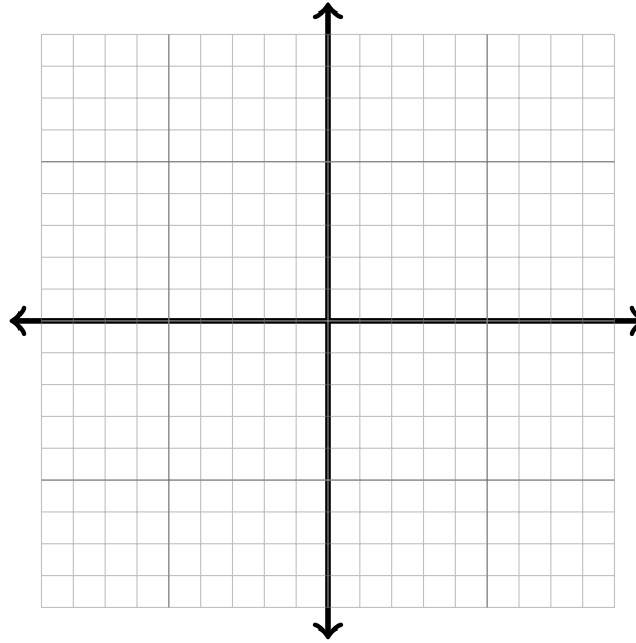
Find the solution to the system of equations:

$$3x - 2y = 12$$

$$6x - 4y = 24$$



## 2.1-Systems of Linear Equations, Infinitely Many Solutions



## 2.1 - Systems of Linear Equations

Find the value of  $k$  so that the system of equations

$$2x + ky = 12$$

$$5x - 3y = 20$$

has infinitely many solutions.

## Setup Tan, Section 2.1, Problem 27

- The total number of passengers riding a certain city bus during the morning shift is 1000. If the child's fare is \$0.50, the adult fare is \$1.50, and the total revenue from the fares in the morning shift is \$1300, how many children and how many adults rode the bus during the morning shift?

## Setup Tan, Section 2.1, Problem 32

- The management of a private investment club has a fund of \$200,000 earmarked for investment in stocks. To arrive at an acceptable overall level of risk, the stocks that management is considering have been classified into three categories: high-risk, medium-risk, and low-risk. Management estimates that high-risk stocks will have a return rate of 15%/year; medium-risk stocks 10%/year; and low-risk stocks 6%/year. The members have decided that the investment in low-risk stocks should be equal to the sum of the investments in the stocks of the other two categories. Determine how much the club should invest in each type of stock if the investment goal is to have a return of \$20,000/year on the total investment.