

Unit 5 Day 1: Solving Systems of Equations

Recall the Calling Plans Task:

Calling Plans

Long-distance Company A charges a base rate of \$5 per month, plus 4 cents per minute that you are on the phone. Long-distance Company B charges a base rate of only \$2 per month, but they charge you 10 cents per minute used.

How much time per month would you have to talk on the phone before subscribing to Company A would save you money?

Time (min)	45	50	51	52
Company A	\$6.80	\$7	\$7.04	\$7.08
Company B	\$6.50	\$7	\$7.10	\$7.20

Solution (when do the 2 plans cost the same?)

this is a point

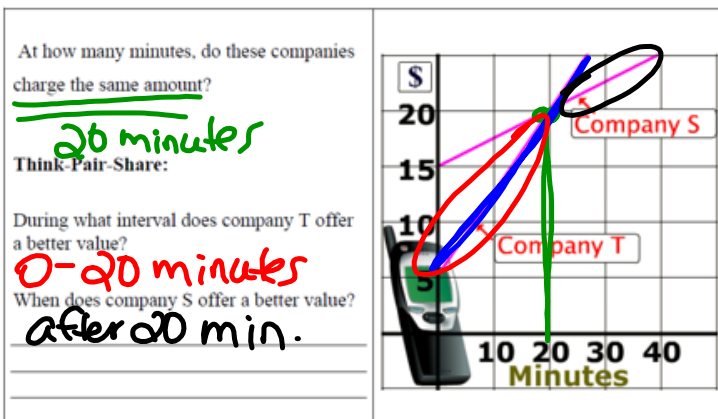
A line is formed by an infinite number of ordered pairs that make the equation true.

What does it mean to solve a system of equations?

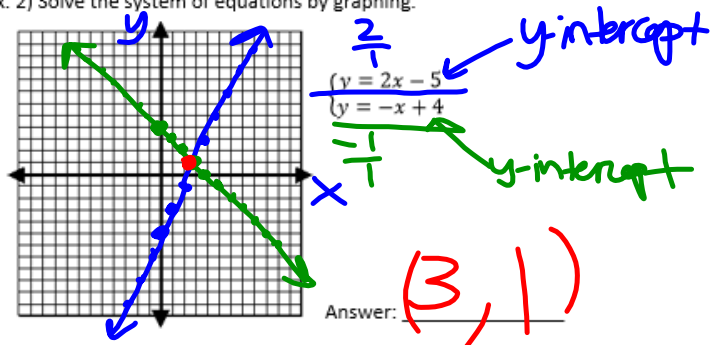
finding the x-and-y-value that works for both equations.

Ex.1)

The table below represents the monthly rate of two cell-phone companies.

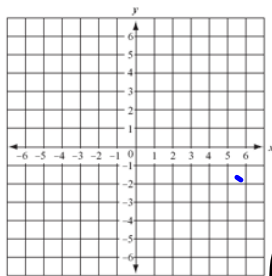


Ex. 2) Solve the system of equations by graphing.

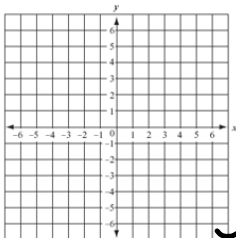


Practice/Closure Day 1

1. Solve the system.
 $y = 3x - 4$
 $y = -3x + 2$



3. Solve the system.
 $4x - 3y = -9$ $2x + 3y = 9$



2. Solve the system.

Handwritten work for problem 2:

$$\begin{array}{r} 5x + y = -2 \\ 3x + 6y = -12 \\ \hline +3x \quad +3x \\ \hline 6y = 3x - 12 \\ \hline \frac{6y}{6} = \frac{3x - 12}{6} \\ y = \frac{1}{2}x - 2 \end{array}$$

$y = mx + b$
 needs to be by itself
 $y = -2 + 5x$
 y-intercept
 $y = \frac{1}{2}x - 2$

Solution: (0, -2)

Homework