> TODAY'S AGENDA:

- Continue working on Khan Academy
- Mission: Engage NY Module 4
  > Systems of Equations Word Problems

- Today's Objective:
  > Students will be able to graph a line, given the equation of the line in Slope-Intercept Form

- Today's Standards:
  > 8.EE.C.8, 8.EE.C.8b, 8.EE.C.8c, HSA.CED.A.2, HSA.CED.A.3, HSA.REI.C.6

Solutions to System of Equations

- What is a ***System of Equations***?
  - A System of Equations is a group of two or more equations.

- What is the Solution to a System of Equations?
  - The solution is the point(s) (as coordinates in (x,y) form) that make the equations true.

Dr. Potter provides vaccinations against polio and measles.

Each polio vaccination consists of 4 doses, and each measles vaccination consists of 2 doses. Last year, Dr. Potter gave a total of 60 vaccinations that consisted of a total of 184 doses.

How many polio vaccinations and how many measles vaccinations did Dr. Potter give last year?

Dr. Potter gave 32 polio vaccinations and 28 measles vaccinations.

Doses
$4P + 2m = 184$

Vacc
$-4P + -4m = (60)-4$
-240

$P + 28 = 60$
-28
$P = 32$

$\frac{-2m}{-2} = \frac{-56}{-2}$
$m = 28$

Try Elimination

Sakura speaks 150 words per minute on average in Hungarian, and 190 words per minute on average in Polish. She once gave cooking instructions in Hungarian, followed by cleaning instructions in Polish. Sakura spent 5 minutes total giving both instructions, and spoke 270 more words in Polish than in Hungarian.

How long did Sakura speak in Hungarian, and how long did she speak in Polish?

Sakura spoke for 2 minutes in Hungarian and for 3 minutes in Polish.

$150H + 190P = P - 270 = H$

H	P
1	4
150	760 = 610
2	3
300	570 : 270 ✓

$H +$ $P = 5$

Try
Trial +
Error

The combined average weight of an okapi and a llama is 450 kilograms. The average weight of 3 llamas is 190 kilograms more than the average weight of one okapi.

On average, how much does an okapi weigh, and how much does a llama weigh?

On average, an okapi weighs 290 kilograms and a llama weighs 160 kilograms.

$K + L = 450$

$3L = 190 + K$

$-190 \quad -190$

$3L - 190 = K$

$3L - 190 + L = 450$

$4L - 190 = 450$

$+190 \quad +190$

$4L = 640$

$\frac{4L}{4} = \frac{640}{4}$

$L = 160$

Try Substitution

$K + L = 450$

$K + 160 = 450$

$-160 \quad -160$

$K = 290$

Each chef at "Sushi Emperor" prepares 15 regular rolls and 20 vegetarian rolls daily. On Tuesday, each customer ate 2 regular rolls and 3 vegetarian rolls. By the end of the day, 4 regular rolls and 1 vegetarian roll remained uneaten.

How many chefs and how many customers were in "Sushi Emperor" on Tuesday?

There were 2 chefs and 13 customers.

Try Trial & Error

CHEFS | CUSTOMERS | Left Over

15R + 20V | 2R + 3V | 4R + 1V

chefs

1: 15 + 20

9 19

2: 30 + 40

26 39

$\frac{2R}{2} = \frac{9}{2}$

$R = 4.5$ X

$26/2 = 13$ $39/3 = 13$ ✓