> TODAY'S AGENDA:

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

- 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, 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.

Solve the system of equations.

$2x - 9y = 14$

$x = -6y + 7$

$x =$ 7

$y =$ 0

$-6(0)+7$

$0+7$

7

$2(-6y+7) - 9y = 14$

$-12y + 14 - 9y = 14$

$-21y + 14 = 14$

$-14 \quad -14$

$\frac{-21y}{-21} = \frac{0}{-21}$

$y = 0$

Solve the system of equations.

$8x + 5y = 24$

$y = -4x$

$x =$ -2

$y =$ 8

$8x+5(-4x)=24$

$8x-20x=24$

$\frac{-12x}{-12} = \frac{-24}{-12}$

$x=-2$

$y=-4(-2)$

8

Solve the system of equations.

$15x + 31y = -3$

$x = -y + 3$

$x =$ 6

$y =$ -3

$15(-y+3) + 31y = -3$

$-15y + 45 + 31y = -3$

$16y + 45 = -3$

$-45 \quad -45$

$\frac{16y}{16} = \frac{-48}{16}$

$y = -3$

$x = -y + 3$

$x = -(-3) + 3$

$x = +3 + 3$

$y = 6$

Solve the system of equations.

$-4x + 7y = 20$

$y = 3x + 15$

$x =$ -5

$y =$ 0

$-4x+7(3x+15)=20$

$-4x+21x+105=20$

$17x+105=20$

$-105 \quad -105$

$\frac{17x}{17} = \frac{-85}{17}$

$x = -5$

$y=3(-5)+15$

$=-15+15$

$y=0$