5-3: Solving Systems by Substitution

Warm-up:
1. Solve $8x + 8(5 - 2x) = -40$ 2. Evaluate $3x - 2$ when $x = 4y + 1$

How can we solve a system?

Example 1: Solve.
$$\begin{cases} x + y = 6 \\ y = x + 2 \end{cases}$$

Example 2: The Drama Club printed 1750 tickets for their spring play. They printed twice as many student tickets as adult tickets and half as many children's tickets as adult tickets. Write a system of 3 (Gasp!) equations and find the number of each ticket printed.

Example 3: Solve.
$$\begin{cases} y = 4x \\ xy = 36 \end{cases}$$

Example 4: Solve.
$$\begin{cases} y = 4 - 3x \\ 3x + y = 7 \end{cases}$$

Example 5: Solve
$$\begin{cases} y = 2x^2 \\ 3y = 6x^2 \end{cases}$$

Consistent:

Inconsistent:

Homework:

"TOO MANY PEOPLE ARE THINKING OF SECURITY INSTEAD OF OPPORTUNITY. THEY SEEM MORE AFRAID OF LIFE THAN DEATH."
− JAMES F. BYRNES