

TOPIC: SOLVING SYSTEMS OF LINEAR EQUATIONS BY SUBSTITUTION

Solving Systems of Linear Equations - Substitution

◆ One way to solve systems *without* graphing is by _____ one equation into another.

EXAMPLE

Solve the system of equations using substitution.

$$y = 7x - 14$$

$$2x - y = 4$$

HOW TO: Solve Systems of Equations - Substitution

- 1) Choose easiest equation to isolate x or y as **(A)**
- 2) Solve **(A)** for x OR y
- 3) Substitute **(A)** into **(B)**, then solve **(B)**
- 4) Plug value from **3)** back into *either* eq'n, then solve
- 5) Check answer by plugging values into both eqn's

PRACTICE

Use substitution to solve the following system of linear equations.

(A)

$$\begin{aligned} 4x + y &= 1 \\ x - y &= 4 \end{aligned}$$

(B)

$$\begin{aligned} 4x + 2y &= 7 \\ x + 5y &= 4 \end{aligned}$$