

Section 7.2

Method of Elimination

- a) Obtain coefficients for x (or y) that differ only in sign by multiplying all terms of one or both equations by suitably chosen constants.
- b) Add the equations to eliminate one variable, and solve the resulting equation.
- c) Solve for the other variable.
- d) Find the value of the other variable.
- e) Check your solution in both of the original equations.

Problem 1. Solve the system by the method of elimination.

a)
$$\begin{cases} 2x + 7y = 1 \\ 4x - 7y = -5 \end{cases}$$

b)
$$\begin{cases} \frac{3}{4}x + y = \frac{1}{8} \\ \frac{9}{4}x + 3y = \frac{3}{8} \end{cases}$$

$$\text{c) } \begin{cases} \frac{9}{5}x + \frac{6}{5}y = 4 \\ 9x + 6y = 3 \end{cases}$$

$$\text{d) } \begin{cases} 3x + 11y = 4 \\ -2x - 5y = 9 \end{cases}$$

$$\text{e) } \begin{cases} 0.2x - 0.5y = -27.8 \\ 0.3x + 0.4y = 68.7 \end{cases}$$

Homework: Read section 7.2, do #7, 9, 11, 17, 29, 41, 43