Sec. 7.4 – Using a Substitution Strategy to Solve a System of Linear Equations

1. Solve this linear system.
$5x - 3y = 18$
$4x - 6y = 18$

2. a) Create a linear system to model this situation:
Alexia invested $1800, part at an annual interest rate of 3.5% and the rest at an annual interest rate of 4.5%. After one year, the total interest was $73.

Given:	Creating a Linear System
There are two investments.	Let x dollars represent the amount invested at 3.5%. Let y dollars represent the amount invested at 4.5%.
The total investment was $1800.	One equation is: $x + y = 1800$
x dollars at 3.5%	The interest is 3.5% of x dollars: $0.035x$
y dollars at 4.5%	The interest is 4.5% of y dollars: $0.045y$
The total interest is $73.	Another equation is: $0.035x + 0.045y = 73$

b) Solve this problem: How much money did Alexia invest at each rate?

3. Solve this linear system by substitution.

$\frac{1}{2}x - \frac{4}{5}y = -2$

$y = \frac{1}{4}x - \frac{3}{8}$