Section 5.3: Solving Systems of Linear Equations by Elimination   Name: _____

In Class Notes

Ex:) Solve the system using elimination. Check your solution.   Notes:

$x + 3y = -2$
$x - 3y = 16$

OYO:) Solve the system using elimination. Check your solution.   Notes:

$-5x + 2y = 13$
$5x + y = -1$

Solve using Elimination

1. _____ which variable you would like to cancel.

2. _____ one or both equations by a number that causes the variables' _____ to

become _____ .

3. _____ the equations together, and solve for the remaining variable.

4. Once you have one variable solved for, _____ to find the other variable.

Ex:) Solve the system using elimination. Check your solution.   Notes:

$$-6x + 5y = 25$$
$$x = -2y - 7$$

OYO:) Solve the system using elimination. Check your solution.   Notes:

$$4x - 5y = -19$$
$$y = -\frac{1}{2}x - 4$$

Modeling Real Life

Ex:) An airplane flying with the wind can cover a certain distance in 2 hours.   Notes:
The return trip against the wind takes 2.5 hours. How fast is the plane and
what is the speed of the air, if the one-way distance is 600 miles?

OYO:) It takes a boat 2 hours to travel 24 miles downstream (with the current)   Notes:
and 3 hours to travel 18 miles upstream (against the current). What is the speed
of the boat in still water and the speed of the current of the river?

Ex:) A chemistry student needs 40 milliliters (mL) of a 14% acid solution.   Notes:
She had two acid solutions, A and B, to mix together to form the 40 mL acid
solution. Acid solution A is 10% acid, and acid solution B is 20% acid. How
much of each solution should be used?

OYO:) Two types of milk, one that is 1% butterfat, and the other that is   Notes:
3.5% butterfat, are mixed. How many liters of these two different kinds of
milk are to be mixed together to produce 10 liters of low-fat milk, which
has 2% butterfat?