Skill check:

Solve By using substitution
y = x - 8
y = -2x - 14

The perimeter of a rectangle is 36 ft? The length is 2 less than 3 times the width? What is the length? What is the width?

5-3 Solving system of linear equations by elimination

Solving when coefficients are opposites

Example 1:

$x + 3y = -2$

$x - 3y = 16$

Steps:

1.) Are the coefficients of the y terms opposites

2.) Add the equations

3.) Solve for x

4.) Substitute:

Practice:

1.) $2x - y = 9$
    $4x + y = 21$

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

3.) $3x + 4y = -6$
    $7x + 4y = -14$

Skill check

Solve by using elimination:

$3x - y = 14$
$-3x + 4y = 16$

Using elimintation when the coefficient is a different number:

Example 2:
$-6x + 5y = 25$
$-2x - 4y = 14$

1.) Find a number to multiply:

2.) Add the equations

3.) Solve for y

4.) Substitute:

Practice:

1.) $3x + y = 11$
      $6x + 3y = 24$

2.) $4x - 5y = -19$
      $-x - 2y = 8$

3.) $5y = 15 - 5x$
      $y = -2x + 3$

You buy 8 hostas, and 15 daylillies for $193.   Your friend buys 3 hostas and 12 daylillies for $117. Write and solve a system of linear equations to find the cost of each daylilly: