More Solving Systems By Elimination

Sometimes there won't be an easy variable to eliminate!	**Steps:** 1. Choose a variable to eliminate. **Make the coefficients opposites by multiplying** 2. Eliminate that variable by adding or subtracting one equation from the other 3. Solve the new equation 4. Substitute your answer to find the other variable

E X A M P L E S

$-2x + 6y = -16$ $-3x - 12y = -24$

Which coefficients can be made inverses? _____ and _____

Need to multiply by _____

_____ • $(-2x + 6y = -16)$

_____ $x +$ _____ $y =$ _____

Add the two equations!
$$-3x - 12y = -24$$
$$+ \ -4x + 12y = -32$$

Solve!
$$x = \underline{\quad}$$

Substitute into either equation!
$$-3x - 12y = -24$$

$$-3(\underline{\quad}) - 12y = -24$$

$$\underline{\quad} - 12y = -24$$

$$-12y = \underline{\quad}$$

$$y = \underline{\quad}$$

Solution:

$-x + y = 4$ $8x - 6y = -25$

Which coefficients can be made inverses? _____ and _____

Need to multiply by _____

_____ • $(-x + y = 4)$

_____ $x +$ _____ $y =$ _____

Add the two equations!
$$8x - 6y = -25$$
$$+ \ -8x + 8y = 32$$

Solve!
$$y = \underline{\quad}$$

Substitute into either equation!
$$-x + y = 4$$

$$-x + (\underline{\quad}) = 4$$

$$-x = \underline{\quad}$$

$$x = \underline{\quad}$$

Solution: