

**Bellwork** 9-10-15

Review from yesterday...

Solve by **SUBSTITUTION** meaning:

- 1) Solve one of the equations for either  $x$  or  $y$
- 2) Plug what  $x$  or  $y$  is equal to in the other equation
- 3) Solve for the variable
- 4) Now, plug that answer into the other equation
- 5) Write solution to the system as an  $(x,y)$  ordered pair.

Solve the linear system using substitution.

$$\begin{cases} 2x - 3y = 1 \\ x + y = 13 \end{cases}$$

Sep 22-8:47 AM

$$\begin{aligned} -4x + y &= 6 \\ -3x + 3y &= -9 \end{aligned}$$

$$\begin{aligned} -4x + y &= 6 \\ +4x &+ 4x \\ \hline y &= 4x + 6 \end{aligned}$$

$$\begin{aligned} -3x + 3(4x + 6) &= -9 \\ -3x + 12x + 18 &= -9 \\ 9x + 18 &= -9 \\ -18 &-18 \\ \hline 9x &= -27 \\ x &= -3 \end{aligned}$$

$(-3, 6)$

$$\begin{aligned} y &= 4(-3) + 6 \\ y &= -12 + 6 \\ y &= -6 \end{aligned}$$

$x = -3$

Sep 10-9:30 AM

9-10-15

3.2b Solve Systems of Linear Equations by Elimination

Sep 2-2:07 PM

Solve the system of equations using elimination.

$$\begin{aligned} x + y &= 2 \\ x - y &= 0 \end{aligned}$$

$$\begin{aligned} 2x &= 2 \\ x &= 1 \end{aligned}$$

$$\begin{aligned} 1 + y &= 2 \\ -1 &-1 \\ \hline y &= 1 \end{aligned}$$

$(1, 1)$

Sep 22-8:54 AM

Solve the system of equations using elimination.

$$\begin{array}{r} 2x + y = 1 \\ x + y = 5 \end{array}$$

$$\begin{array}{r} 3x = 6 \\ x = 2 \end{array}$$

$$\begin{array}{r} 2 - y = 5 \\ -2 - y = -2 \\ \hline -y = 3 \\ y = -3 \end{array}$$

$(2, -3)$

Sep 22-8:54 AM

Solve the system of equations using elimination.

$$\begin{array}{r} 5x - 2y = -1 \\ -2(3x - y = -2) \end{array}$$

$$\begin{array}{r} 5x - 2y = -1 \\ -6x + 2y = 4 \\ \hline -x = 3 \\ x = -3 \end{array}$$

$$\begin{array}{r} 5(-3) - 2y = -1 \\ -15 - 2y = -1 \\ +15 \quad +15 \\ \hline -2y = 14 \\ -2 \quad -2 \\ \hline y = -7 \end{array}$$

$(-3, -7)$

Sep 22-8:54 AM

Solve the system of equations using elimination.

$$\begin{array}{r} 2(3x + 5y = -16) \\ -3(2x + 3y = -9) \end{array}$$

$$\begin{array}{r} 6x + 10y = -32 \\ -6x - 9y = 27 \\ \hline y = -5 \end{array}$$

$$\begin{array}{r} 3x + 5(-5) = -16 \\ 3x - 25 = -16 \\ +25 \quad +25 \\ \hline 3x = 9 \\ x = 3 \end{array}$$

$(3, -5)$

Sep 22-8:54 AM

Vanessa has a coin collection of 30 coins. They consist of dimes and nickels. If her coins add to be \$2.10, how many of each does Vanessa have?

$$\begin{array}{r} -.05(n + d = 30) \\ .05n + .10d = 2.10 \end{array}$$

$$\begin{array}{r} -.05n - .05d = -1.50 \\ .05n + .10d = 2.10 \\ \hline .05d = .60 \\ .05 \quad .05 \\ \hline d = 12 \end{array}$$

$$\begin{array}{r} n + 12 = 30 \\ -12 \quad -12 \\ \hline n = 18 \end{array}$$

Sep 14-3:27 PM

**Conclusion**

1. Name three ways to solve systems of equations.

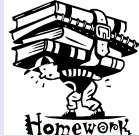
*Substitution, Elimination, Graphing*

2. What needs to happen to solve by elimination?

*Line up x + y then coefficients need to*

3. Any Questions????

*be opposite numbers*



**Assignment  
for  
Solving by Elimination  
Worksheet**

Sep 14-3:30 PM

Sep 22-9:04 AM

Now, you try using **ELIMINATION**:

$$2x + 4y = 12$$

$$-3x + 3y = 63$$

Sep 22-8:54 AM