Solving Linear Systems by Elimination

Solve the following system of equations:

Feb 13-7:50 PM

Solve the following system of equations: (try adding them together)

$$\begin{array}{r}
17x + 23y = 35 \\
26x - 23y = -121
\end{array}$$

$$\begin{array}{r}
43z = -86 \\
43 \end{array}$$

$$\begin{array}{r}
x = -2
\end{array}$$
Sub $x = -2$ into (1) on (2)
$$\begin{array}{r}
17(-2) + 23y = 35 \\
-34 + 23y = 35
\end{array}$$

$$\begin{array}{r}
73y = 35 + 34 \\
23y = 69 \\
\hline
73
\end{array}$$

$$\begin{array}{r}
23y = 69 \\
\hline
73
\end{array}$$

Feb 13-7:50 PM

Solving Linear Systems by Elimination

- 1. Write equations in the same form: Ax + By = C
- 2. Look for the coefficients of one of the variables to be the same (sign does not matter).
- 3. If necessary, multiply one or both equations by a whole number to achieve step 2.
- 4. a) Same coefficient, same sign: subtract b) Same coefficient, opposite sign: add.
- 5. Solve the resulting equation.
- 6. Substitute to find the value of the other variable.

Feb 15 - 3:47 PM

Ex.1 Solve:
$$x+y=60 \text{ (f)} x-y=8 \text{ (2)}$$

$$\frac{x-y=8}{2x} = \frac{68}{2}$$

$$x=34$$
Sub $x=34 \text{ into (1)} \text{ or (2)}$

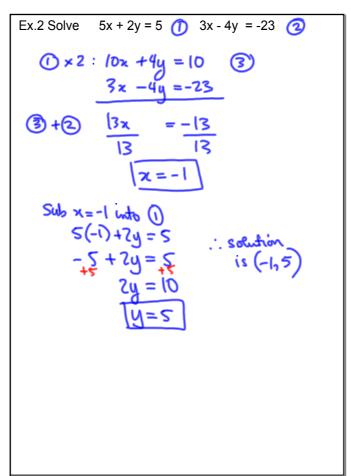
$$(34)+y=60$$

$$y=60-34$$

$$y=26$$

$$Solution is (34,26)$$

Feb 15 - 3:53 PM



Feb 15 - 3:53 PM

Ex.3
$$\frac{x}{2} + \frac{y}{8} = 4$$
 ① $\frac{x}{3} - \frac{y}{2} = -2$ ②

** recommend getting rid of all fractions first

① $\times 8 : \frac{4x}{2} + \frac{4y}{2} = 32$

② $\times 6 : \frac{4x}{2} - \frac{4y}{2} = -12$

② $\times 6 : \frac{4x}{2} - \frac{4y}{2} = -12$

② $\times 6 : \frac{4x}{2} - \frac{4y}{2} = -12$

② $\times 6 : \frac{4x}{2} - \frac{4y}{2} = -12$

③ $\times 3 : |2x + 3y| = 96$ ⑤

① $: 2x - 3y = -12$

③ $: 2x - 3y = -12$

⑤ $: 2x - 3y = -12$

Feb 15 - 3:57 PM

Assigned Work:

Feb 15 - 4:04 PM

46)
$$3x - 7y = 11$$
 ① \times 8
$$5x + 8y = 9$$
 ② \times 7
$$24x - 56y = 88$$

$$35x + 56y = 63$$

$$7 + 8$$

Sep 19-9:30 AM

