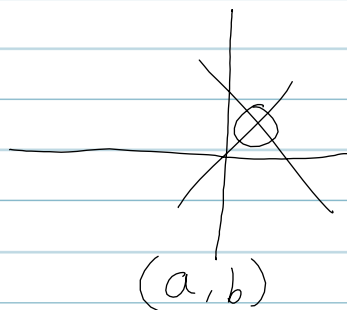
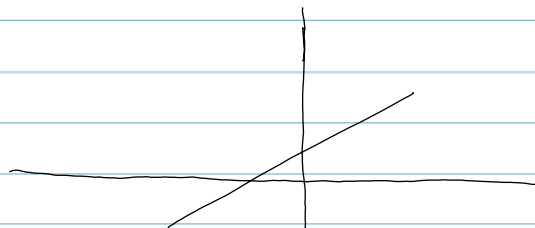
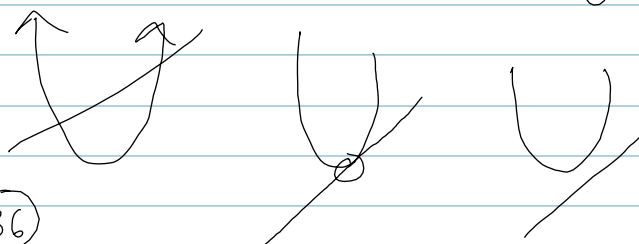
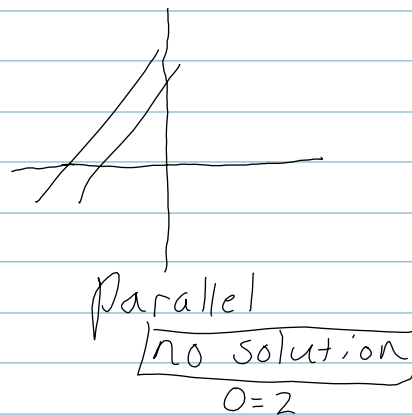


Section 8.1 Systems of Linear Equations

- 1) Graphing
- 2) Substitution
- 3) Elimination or Addition



infinite
solutions
(true statement)
 $0 = 0$



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$$\text{lcd } 6 \quad \frac{1}{3}x - \frac{3}{2}y = -5$$

$$\text{lcd } 12 \quad \frac{3}{4}x + \frac{1}{3}y = 11$$

$$\begin{array}{l} \textcircled{1} \quad 2x - 9y = -30 \\ \textcircled{2} \quad 9x + 4y = 132 \end{array}$$

$$\begin{array}{l} 2x - 9y = -30 \\ 2(12) - 9y = -30 \\ 24 - 9y = -30 \\ -9y = -54 \\ y = 6 \end{array}$$

$$(12, 6)$$

$$\textcircled{1} \quad 8x - 36y = -120$$

$$\textcircled{2} \quad 81x + 36y = 1188$$

$$\begin{array}{l} 81x = 1068 \\ x = 12 \end{array}$$

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$$\begin{aligned}x + 3y &= 5 \\ 2x - 3y &= -8\end{aligned}$$

$$\begin{aligned}x &= 5 - 3y \\ 2x - 3y &= -8\end{aligned}$$

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

$$\begin{aligned}2(5 - 3y) - 3y &= -8 \\ 10 - 6y - 3y &= -8 \\ 10 - 9y &= -8 \\ -9y &= -18 \\ y &= 2\end{aligned}$$

$(-1, 2)$

3 x 3 systems

$3 \times 3 \rightarrow 2 \times 2 \rightarrow 1$ answer
3rd answer 2nd answer

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$$\begin{aligned}\textcircled{1} \quad 2x + y - 3z &= 0 \\ \textcircled{2} \quad -2x + 2y + z &= -7 \\ \textcircled{3} \quad 3x - 4y - 3z &= 7\end{aligned}$$

$$\begin{aligned}\textcircled{1} \quad -4x + 2y + 6z &= 0 \\ \textcircled{2} \quad -2x + 2y + z &= -7\end{aligned}$$

$$\textcircled{4} \quad 6x + 7z = -7$$

$$\begin{aligned}4 \textcircled{1} \quad 8x + 4y - 12z &= 0 \\ \textcircled{3} \quad 3x - 4y - 3z &= 7\end{aligned}$$

$$\textcircled{5} \quad 11x - 15z = 7$$

$$\begin{aligned}\textcircled{4} \quad -6x + 7z &= -7 \\ \textcircled{5} \quad 11x - 15z &= 7\end{aligned}$$

$$\begin{aligned}11 \textcircled{4} \quad -66x + 77z &= -77 \\ 6 \textcircled{5} \quad 66x - 90z &= 42\end{aligned}$$

$$\begin{aligned}-13z &= -35 \\ z &= \frac{35}{13}\end{aligned}$$