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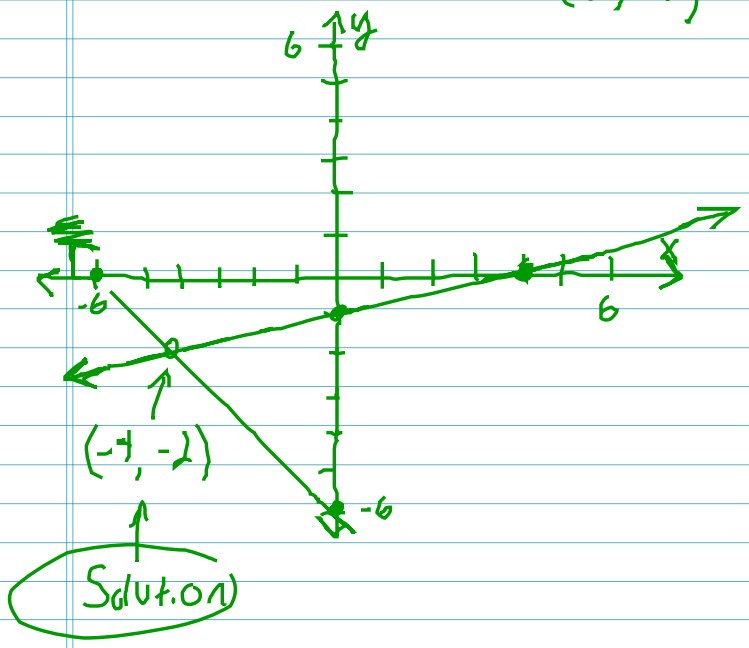
Final Exam: Dec 12th 10am-12:30pm
Scare 4.1 (pp 55-??)

$x + y = -6$
$(0, -6)$, $(-6, 0)$

$x - 4y = 4$
$(0, -1)$, $(4, 0)$



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Final Exam: Dec 12th 10am-12:30pm

Start 4.1 (pp 55-??)

$x + y = -6$

$(0, -6)$, $(-6, 0)$

$x - 4y = 4$

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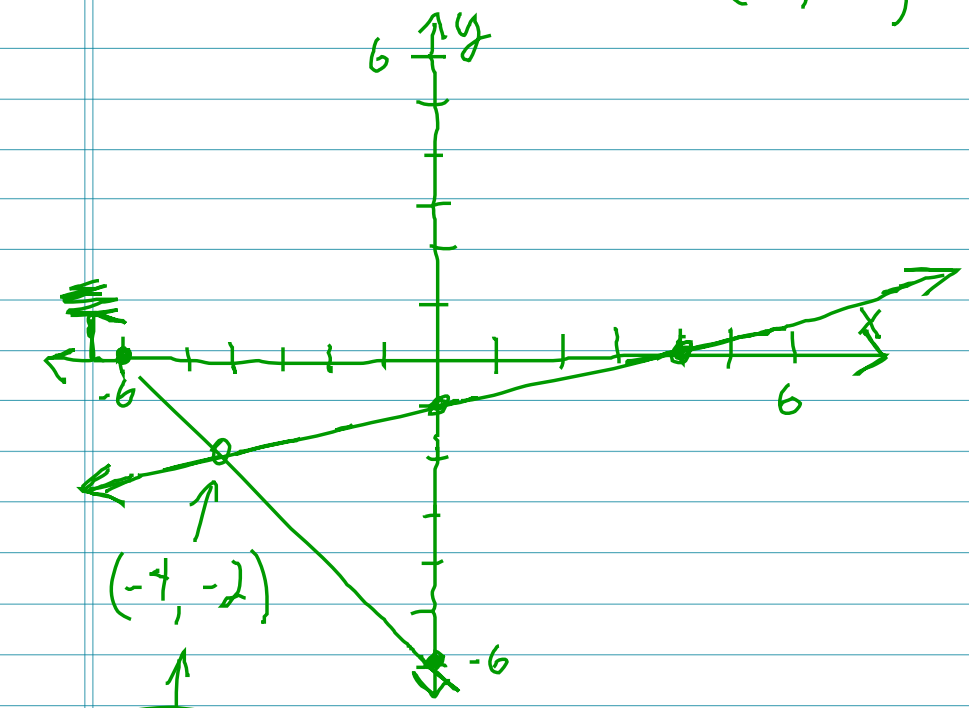

$x + y = -6$

$(-4) + (-2) = -6$ ✓

$x - 4y = 4$

$(-4) - 4(-2) = 4$ ✓

4.1.21

$$\begin{cases} \frac{x}{4} + y = -\frac{19}{4} & [1] \\ -2x + 14y = -116 & [2] \end{cases}$$

$$(4)\left(\frac{x}{4} + y\right) = \left(-\frac{19}{4}\right)(4)$$

$$\frac{4}{1} \cdot \frac{x}{4} + 4y = \frac{-19}{4} \cdot \frac{4}{1}$$

$$\begin{cases} x + 4y = -19 & [1] \\ -2x + 14y = -116 & [2] \end{cases}$$

Solve for x in equation [1]

$$\begin{cases} x = -4y - 19 \\ -2x + 14y = -116 \end{cases}$$

$$\begin{cases} x = -4y - 19 \quad [1] \\ -2x + 14y = -116 \end{cases}$$

$$-2(-4y - 19) + 14y = -116$$

$$8y + 38 + 14y = -116$$

$$22y + 38 = -116$$

$$-38 \qquad -38$$

$$\frac{22y}{22} = \frac{-154}{22}$$

$$y = -7$$

$$(\quad , -7)$$

Plug into: $x = -4y - 19$ [1]

$$x = -4(-7) - 19$$

$$x = 28 - 19$$

$$x = 9$$

$$\boxed{(9, -7)}$$ ✓ 11

4.1.27) Solve by Elimination

$$\begin{cases} \frac{5}{6}x + \frac{2}{3}y = 7 & [1] \\ \frac{7}{12}x - \frac{5}{6}y = -2 & [2] \end{cases}$$

$$(6)\left(\frac{5}{6}x + \frac{2}{3}y\right) = (7)(6) \quad [1]$$

$$\frac{6}{1}\cdot\frac{5}{6}x + \frac{6}{1}\cdot\frac{2}{3}y = 42$$

$$\begin{cases} 5x + 4y = 42 & [1] \\ \frac{7}{12}x - \frac{5}{6}y = -2 & [2] \end{cases}$$

$$\left(\frac{12}{1}\right)\left(\frac{7}{12}x - \frac{5}{6}y\right) = (-2)(12)$$

$$\frac{12}{1}\cdot\frac{7}{12}x - \frac{12}{1}\cdot\frac{5}{6}y = -2(12)$$

$$7x - 10y = -24 \quad [2]$$

$$\begin{cases} 5x + 4y = 42 & \text{①} \\ 7x - 10y = -24 & \text{②} \end{cases}$$

$$+ \begin{cases} 50x + 40y = 420 & \text{①} \\ 28x - 40y = -96 & \text{②} \end{cases}$$

$$78x + 0 = 324$$

$$\frac{78x}{78} = \frac{324}{78}$$

$$x = \frac{324}{78}$$

$$x = \frac{54}{13}$$

6.84:

3 ÷ 13 MATH 1 ENTER

now find y. $\left(\frac{54}{13}, ?\right)$

$5x + 4y = 42$

$5\left(\frac{54}{13}\right) + 4y = 42$

$\frac{5}{1} \cdot \frac{54}{13} + 4y = 42$

$13\left(\frac{270}{13} + 4y\right) = (42)13$

~~$13\left(\frac{270}{13} + \frac{13}{1}4y\right)$~~

$\frac{13}{1} \cdot \frac{270}{13} + (13)4y = 546$

$270 + 52y = 546$

$-270 \quad -270$

$\frac{52y}{52} = \frac{276}{52}$

$y = \frac{276}{52}$

$y = \frac{69}{13}$

Final Answer: $\left(\frac{54}{13}, \frac{69}{13}\right)$

4.1.3

$$\begin{cases} \frac{8}{7}x - \frac{16}{7}y = \frac{24}{7} & [1] \\ -8x + 16y = 34 & [2] \end{cases}$$

$\frac{7}{1}\left(\frac{8}{7}x - \frac{16}{7}y\right) = \left(\frac{24}{7}\right)\frac{7}{1}$ [1] ← Clear Fractions

$$\begin{cases} 8x - 16y = 24 & [1] \\ -8x + 16y = 34 & [2] \end{cases}$$

$+$

$$0 + 0 = 58$$

$$0 = 58$$

- FALSE
- Contradiction
- no Solution
- Parallel

4.1.49

$$\begin{cases} 6x + y = 1 & [1] \\ 3y = 3 - 18x & [2] \end{cases}$$

$$\begin{cases} 6x + (y) = 1 & [1] \\ 3y = 3 - 18x & [2] \end{cases}$$

✓

$6x + y = 1$

$$\begin{cases} y = -6x + 1 & [1] \\ 3y = 3 - 18x & [2] \end{cases}$$

$3(-6x + 1) = 3 - 18x$

$-18x + 3 = 3 - 18x$

- Identical true.

All real #'s! / infinite Sdutions!

MML answer: either equation