Homework Review (7.3 and Quiz Review)

① $2x+3y=4$ $\quad$ $5x-y=-7$

$-2x$ $\quad$ $-2x$ $\quad$ $-5x$ $\quad$ $-5x$

$\frac{3y}{3}=\frac{-2x}{3}+\frac{4}{3}$ $\quad$ $\frac{-1y}{-1}=\frac{-5x}{-1}+\frac{-7}{-1}$

$y=\frac{-2}{3}x+\frac{4}{3}$ $\quad$ $y=5x+7$

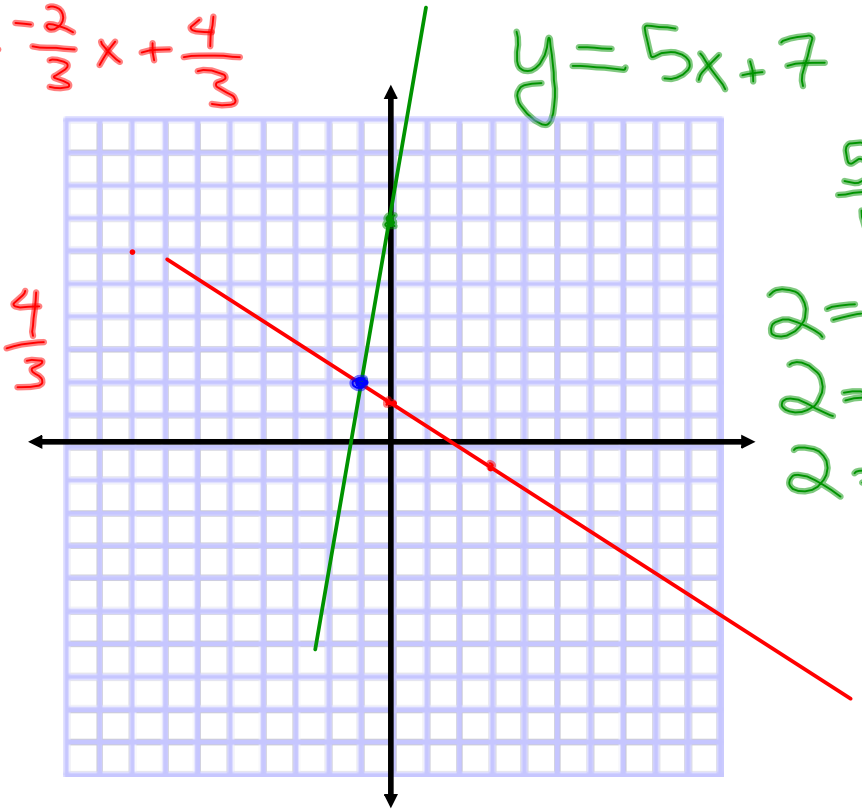
$(-1,2)$

$2=\frac{-2}{3}(-1)+\frac{4}{3}$ $\quad$ $\frac{5}{1}=\frac{-5}{-1}$

$2=\frac{2}{3}+\frac{4}{3}$ $\quad$ $2=5(-1)+7$

$2=\frac{6}{3}$ $\quad$ $2=-5+7$

$2=2$ ✓ $\quad$ $2=2$ ✓



⑦ $\frac{1}{2}x+\frac{1}{5}y=22$

$-\frac{1}{2}x \qquad -\frac{1}{2}x$

$\frac{5}{1}\cdot\frac{1}{5}y=\left(-\frac{1}{2}x+22\right)\cdot\frac{5}{1}$

$y=\left(-\frac{5}{2}x+110\right)$

$2x-3y=-11$

$2x+-3\left(-\frac{5}{2}x+110\right)=-11$

$2x+\frac{15}{2}x+-330=-11$

$\frac{19}{2}x+-330=-11$

$+330 \qquad +330$

$\frac{2}{19}\cdot\frac{19}{2}x=319\cdot\frac{2}{19}$

$x=\frac{638}{19}$

$2x-3y=-11$

$2\left(\frac{638}{19}\right)-3y=-11$

$\frac{1276}{19}-3y=-11$

$-\frac{1276}{19} \qquad -\frac{1276}{19}$

$-3y=-11+-\frac{1276}{19}$

$\frac{-3y}{-3}=\frac{-1485}{19}\cdot\frac{+1}{3}$

$y=\frac{495}{19}$

$\left(\frac{638}{19},\frac{495}{19}\right)$

$\frac{2\cdot 2}{2\cdot 1}x+\frac{15}{2}x$

$\frac{4}{2}x+\frac{15}{2}x=\frac{19}{2}x$

$\frac{19}{2}$

$\times 32$

138

570

608

$\frac{640}{20}\cong 32$

608

19

627

$\frac{19}{19}\cdot\frac{-11}{1}+\frac{-1276}{19}$ $\quad -209$

-1276

-1485

$\frac{-209}{19}+\frac{-1276}{19}=\frac{-1485}{19}$

$3\overline{)1485}$ $\quad 495$

12

28

27

15

19

$\times 25$

95

380

475

When to add, when to subtract:

$$\begin{array}{r} 3x + 2y = 7 \\ 4x - 2y = 5 \\ \hline 7x \qquad = 12 \end{array}$$

add when signs are opposite

$$\begin{array}{r} 3x + 2y = 7 \\ -4x + 2y = 5 \\ \hline -x \qquad = 2 \end{array}$$

Subtract when signs are the same

Adding/Subtracting When Coefficients Aren't Equal:

$5(7x + 9y) = (-6)5 \quad 7(-5x + 14y) = 11(7)$

Multiply first!

by #'s that will give you coefficients that are the same...

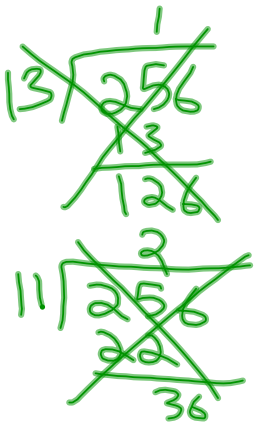
Then use same four steps...

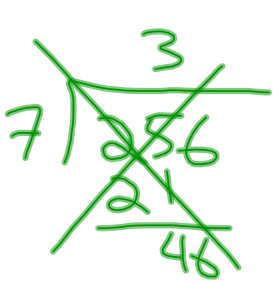
1. $\frac{21}{143}$ $\frac{6}{858}$
2. $35x + 45y = -30$
   $-35x + 98y = 77$
   $143y = 47$
   $\frac{143y}{143} = \frac{47}{143}$
3. $7x + 9\left(\frac{47}{143}\right) = -6$
   $7x + \frac{603}{143} = -6$
   $\frac{-603}{143} \quad \frac{-603}{143}$
4. $143 \cdot \frac{-6}{1} + \frac{-603}{143}$

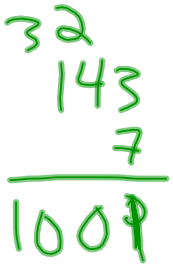
$\frac{7x}{7} = \frac{256}{143} \cdot \frac{1}{7}$

$\frac{858}{143} + \frac{-603}{143} = \frac{256}{143}$

$x = \frac{256}{1001} \quad y = \frac{47}{143}$







16. $-3x - 4y = 27$
$5x - 6y = -7$

17. $2x + 7y = 2$
$5x - 2y = 83$

18. $3x - 5y = -16$
$2x - 3y = -8$

Hockey Game Two families go to a hockey game. One family purchases two adult tickets and four youth tickets for $28. Another family purchases four adult tickets and five youth tickets for $45.50. Let x represent the cost in dollars of one adult ticket and let y represent the cost in dollars of one youth ticket.

a. Write a linear system that represents this situation.

b. Solve the linear system to find the cost of one adult and one youth ticket.

c. How much would it cost two adults and five youths to attend the game?

Solution method	When to use	Example:	"Keys" to solving

Homework:

Linear Systems Practice Worksheet and Study for quiz ...

p. 455, 10-18, 20-30 even, 37, 38

$\left(\frac{638}{19}, \frac{495}{19}\right)$

$\frac{1}{2}x + \frac{1}{5}y = 22$

$2x - 3y = -11$

$$\frac{1}{2}x+\frac{1}{5}y=22$$

$$2x-3y=-11$$