Homework Review (7.3)

30

$-2.6x - 3.2y = 4.8$

$+(-1.9x + 3.2y = +4.2)$

$\frac{-4.5x}{-4.5} = \frac{9}{-4.5}$

$x = -2$

$-2.6(2) - 3.2y = 4.8$

$+5.2 - 3.2y = 4.8$

$\quad -5.2 \quad -5.2$

$-3.2y = -.4$

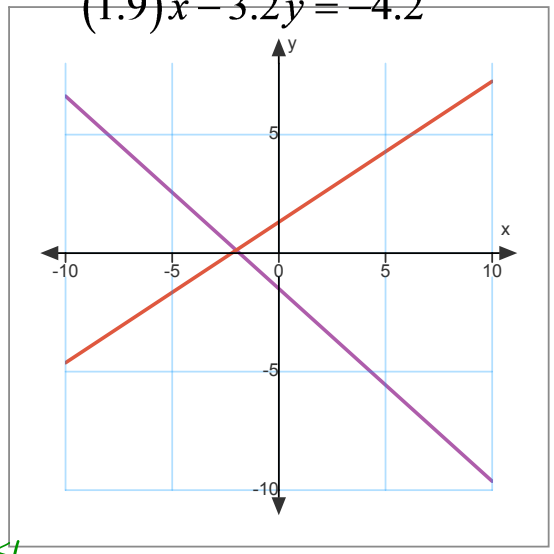
$\frac{-3.2y}{-3.2} = \frac{-.4}{-3.2}$

$y = +.125$

$$\begin{array}{r} .125 \\ -3.2\overline{)\,100.} \\ \underline{96} \\ 40 \\ \underline{32} \\ 80 \\ \underline{64} \\ 160 \end{array}$$

$(-2.6)x - 3.2y = 4.8$

$(1.9)x - 3.2y = -4.2$



(27) $8x - \frac{1}{2}y = -38$

$+ \left(-\frac{1}{4}x + \frac{1}{2}y = +7\right)$

$7\frac{3}{4}x = -31$

$\frac{4}{31} \cdot \frac{31}{4}x = -31 \cdot \frac{4}{31}$

$x = -4$

$8(-4) - \frac{1}{2}y = -38$

$-32 - \frac{1}{2}y = -38$

$+32 \qquad +32$

$-2 \cdot -\frac{1}{2}y = -6 \cdot 2$

$y = 12$

$(-4, 12)$

(40)

x = fee

y = rate per quart

5 qts → 22.45

7 qts → 25.45

$x + 5y = 22.45$

$+ (-x + -7y = -25.45)$

$-2y = -3$

$\frac{-2y}{-2} = \frac{-3}{-2}$

$y = 1.50$

$x + 5(1.50) = 22.45$

$x + 7.50 = 22.45$

$-7.50 \quad -7.50$

$x = 4.95$

When to add, when to subtract:

$$3x + 2y = 7$$
$$\times \quad 4x - 2y = 5$$
$$7x = 12$$

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

Check the sign of the coefficient – same sign? Subtract. Opposite signs? Add

Adding/Subtracting When Coefficients Aren't Equal:

$\frac{1}{3}+\frac{1}{4}=\frac{4}{12}+\frac{3}{12}$ $\frac{1}{2}+\frac{1}{4}=\frac{2}{4}+\frac{1}{4}$

$3(4x+5y=35)$ $(2y=3x-9)4$

$12x+15y=105$

$-12x+8y=-36$

$23y=69$

$\frac{23y}{23}=\frac{69}{23}$

$y=3$

$(5,3)$

$8y=12x-36$

$-12x$

$-12x+8y=-36$

$4x+5(3)=35$

$4x+15=35$

$\frac{4x}{4}=\frac{20}{4}$

$x=5$

Multiply first! (To make the coefficients the same...)

Then use same four steps...

1. Rearrange one equation
2. Add or subtract
3. Solve resulting eq.
4. Substitute & solve again

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

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

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

$(-3x - 4y = 27)5$
$(5x - 6y = -7)3$

$-15x - 20y = 135$
$15x - 18y = -21$

$-38y = 114$

$\frac{-38y}{-38} = \frac{114}{-38}$

$y = -3$

$(-5, -3)$

2
38
3
114

$-3x - 4(-3) = 27$

$-3x + 12 = 27$
$-12 \quad -12$

$-3x = 15$

$\frac{-3x}{-3} = \frac{15}{-3}$

$x = -5$

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?

$(2x + 4y = 28)2$

$4x + 5y = 45.50$

$-4x + -8y = -56$

$3\overline{)10.5}$ → 3.5, 9, 15

$\frac{-3y}{-3} = \frac{-10.5}{-3}$

$y = 3.5$

$(7, 3.5)$

$2x + 4(3.5) = 28$

$2x + 14 = 28$

$2x = 14$

$x = 7$

x = ad. ticket = 7

y = youth ticket = 3.5

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

Homework:

Linear Systems Pracce Worksheet and Study for quiz ...
(tomorrow in class)

→ p. 455, 10-18, 20-30 even, 37, 38

→ STUDY FOR QUIZ!
7.1-7.4
Thurs. 4/12

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

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