HW Review – p. 447

$x + qy = \text{total}$

→ x = flat fee

→ y = $ per quart

5 qt – total = 22.45

7 qt – total = 25.45

$x + 5y = 22.45$

$-x + -7y = -25.45$

$-2y = -3.00$

$\frac{-2y}{-2} = \frac{-3.00}{-2}$

$y = 1.5$

fee is: 14.95

cost/qt is: 1.50

$x + 5(1.5) = 22.45$

$x + 7.5 = 22.45$

$x = 14.95$

$-32 - 6 = -38$ ✓

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

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

$1 + 6 = 7$ ✓

$\frac{4}{31} \cdot \frac{31}{4}\cancel{\frac{3}{4}}x = -31 \cdot \frac{4}{31}$

$x = -4$

$(-4, 12)$

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

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

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

$y = 12$

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

→ if signs are opposite, ADD

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

→ if signs are the same, SUBTRACT!

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$$-2.6x - 3.2y = 4.8$$
$$-1.9x + 3.2y = -4.2$$

same subtract

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

$x = -2$

$(-2, 0.125)$

$$-2.6(-2) - 3.2y = 4.8$$
$$5.2 - 3.2y = 4.8$$
$$-3.2y = -0.4$$
$$y = 0.125$$

(24)

$3x - 2y = -3$

$+3x + 5y = 60$

$-7y = -63$

$y = 9$

$3x - 2y = -3$

$5y = 60 - 3x$

$+3x \qquad +3x$

$3x + 5y = 60$

Solution method	When to use	Example	"Keys" to solving
Graphing	When both eq's are in $y=mx+b$ and easy to graph accurately	$y=2x+3$ $y-5x=5$ $+5x \quad +5x$ $y=5x+5$	· Accurately graph lines · Accurate estimate of point of intersection
Substitution	when one eq. is in "$x=$" or "$y=$"	$y-3x=-5$ $+3x \quad +3x$ $y=3x-5$ $3x-5y=2$	· Substitute one eq. into the other, find a # · Substitute the # back into either eq. and solve for the other var.
Elimination (Adding/Subtracting)	When both eq.'s are lined up in columns AND one variable has the same coefficient in both equations	$7x+2y=5$ $7x=7y+5$ $-7y \quad -7y$ $7x-7y=3$	· ADD when signs of coeff. are opposite · SUBTRACT SAME