

Warm up:

1) Solve for a.

$$ab - cx = y - am$$

$$\frac{ab + am - cx}{\cancel{+am} \quad \cancel{+am}} = \frac{y - am}{\cancel{+am}}$$

$$ab + am = y + cx$$

$$\frac{a(b+m)}{b+m} = \frac{y+cx}{b+m}$$

$$a = \frac{y+cx}{b+m}; m \neq -b$$

$$\begin{array}{r} 7+5a \neq 0 \\ \rightarrow 5a \neq -7 \\ \hline \frac{5a}{5} \neq \frac{-7}{5} \end{array}$$

2) Solve for x.

$$(n-x)(5a) = \left(\frac{7x}{n-x} \right) (n-x)$$

$$5an - 5ax = 7x$$

$$+5ax + 5ax$$

$$\hline 5an = 7x + 5ax$$

$$5an = x(7+5a)$$

$$\frac{5an}{7+5a} = \frac{x(7+5a)}{7+5a}$$

$$\frac{5an}{7+5a} = x; a \neq -\frac{7}{5}$$

HW Solutions

20

$$\begin{array}{r} -14n + 9 = r + -4n \\ +4n \qquad \qquad \qquad +4n \end{array}$$

$$\begin{array}{r} -10n + 9 = r + \\ -9 \quad -9 \end{array}$$

$$\begin{array}{r} -10n = r + -9 \\ \underline{-10} \qquad \underline{-10} \end{array}$$

23

$$\begin{array}{r} 10c - f = -13 + cd \\ -cd + f \quad + f - cd \\ \hline \end{array}$$

$$10c - cd = f - 13$$

$$\frac{c(10-d)}{10-d} = \frac{f-13}{10-d}$$

$$c = \frac{f-13}{10-d}$$

⑦

$$\begin{array}{r} 14w + 15x = y - 21w \\ + 21w - 15x - 15x + 21w \\ \hline 35w = \frac{y - 15x}{35} \\ \hline w = \frac{y - 15x}{35} \end{array}$$

25

$$m = \frac{5}{2}y + n$$

$$\frac{5}{2}(m-n) = \left(\frac{5}{2}y\right) \frac{5}{2}$$

$$\frac{5m - 5n}{2} = y$$

(73)

$$\begin{array}{r} -5m + 9n = 15 \\ \quad -9n - 9n \\ \hline -5m = 15 - 9n \\ \quad -5 \quad -5 \\ \hline m = \frac{-15 + 9n}{5} \end{array}$$

$$Q2 \quad P = 2l + 2w$$

$$\begin{array}{r} -2w \qquad -2w \\ \hline P - 2w = \frac{2l}{2} \end{array}$$

$$\frac{P - 2w}{2} = l$$

Maria worked twice as many 6 hour shifts as 8 hours shifts. She worked a total of 280 hours. Find the number of full 8 hour shifts that Maria worked.

	Hours per shift	Number of shifts	Total hours worked
6h Shifts	6	2x	12x
8h Shifts	8	x	8x

$$12x + 8x = 280$$

$$\frac{20x = 280}{\frac{20}{20} \quad \frac{20}{20}}$$

$$x = 14$$

14 8h shifts

A store just received a shipment of 3 lb boxes of pecans and 2 lb boxes of walnuts. There were 24 fewer 2 lb boxes of walnuts than 3 lb boxes of pecans. The total weight of the shipment was 462 lb. Find the total weight of the boxes of pecans in the shipment.

	Weight per box	Number of boxes	Total Weight
Pecans	3	p	$3p$
Walnuts	2	$p-24$	$2p-48$

$$3p + 2p - 48 = 462$$

$$5p - 48 = 462$$

$$p + 98 = 462$$

$$\frac{5p}{5} = \frac{510}{5} \quad p = 102$$

102 boxes of pecans
 $3(102)$

306 lb

Joel saw twice as many $1\frac{1}{2}$ h space movies as he did 2 h mysteries. He spent a total of 15 h watching movies. Find the amount of time Joel spent watching space adventure movies.

	length	#	= total time
space	1.5	2m	3m
mystery	2	m	2m

$3m + 2m = 15$
 $5m = 15$
 $\frac{5m}{5} = \frac{15}{5}$
 $m = 3$
 $3 \cdot 3 = 9$
 $9h$