

HW: Chart Problems Worksheet/4, 6, 8, 11, 12

Warm up:

The cross-country teams of East High and West High run against each other twice each Fall. At the first meet, East's score was two thirds of West's score. At the second meet, East's score increased by seven points and West's score decreased by seven points. In the second meet, West's score was three less than East's score. How many points did each team score in each meet?

	1	2
E	$\frac{2}{3}w$	$\frac{2}{3}w + 7$
W	w	$w - 7$

$$\begin{aligned} \frac{2}{3}w + 7 - 3 &= w - 7 \\ \frac{2}{3}w + 4 &= w - 7 \\ -\frac{2}{3}w + 7 &= -\frac{2}{3}w + 7 \\ \hline 3(11) &= 3(\frac{1}{3}w) \\ 33 &= w \end{aligned}$$

East \rightarrow 22, 29

West \rightarrow 33, 26

Tickets for the senior class play cost \$6 for adults and \$3 for students. A total of 846 tickets worth \$3846 were sold. How many student tickets were sold?

	\$	x #	= Total
A	6	a	6a
S	3	846-a	2538-3a

436 adults

410 students

$$2538 - 3a + 6a = 3846$$

$$3a + 2538 = 3846$$

$$-2538 \quad -2538$$

$$\frac{3a}{3} = \frac{1308}{3} \quad a = 436$$

Marlee makes \$5 an hour working after school and \$6 an hour working on Saturdays. Last week, she made \$64.50 by working a total of 12 hours. How many hours did she work on Saturday?

	h	\$/h	total \$
AS	12-s	5	60-5s
S	s	6	6s

$$60 - 5s + 6s = 64.5$$

$$s + 60 = 64.5$$

$$\begin{array}{r} s + 60 = 64.5 \\ -60 \quad -60 \\ \hline s = 4.5 \end{array}$$

4.5h

Hans paid \$1.50 each for programs to the game. He sold all but 20 of them for \$3 each and made a profit of \$15. How many programs did he buy?

	\$	#	total \$
B	1.50	b	1.5b
S	3	b-20	3b-60

$$\underline{3b - 60} - \underline{1.5b} = 15$$

$$\begin{array}{r} 1.5b - 60 = 15 \\ \quad \quad \quad \downarrow \quad \downarrow \\ \quad \quad \quad 60 \quad 60 \\ \hline 1.5b = 75 \\ \underline{1.5} \quad \underline{1.5} \\ b = 50 \end{array}$$

50 programs

1) A collection of quarters and dimes is worth \$6.75. The number of dimes is 4 less than three times the number of quarters. How many of each are there?

2) I have twice as many nickels as quarters. If the coins are worth \$4.90, how many quarters are there?

3) A total of 720 people attended the school basketball game. Adult tickets cost \$2.50 each and student tickets cost \$1.50 each. If \$1220 worth of tickets were sold, how many students and how many adults attended?

4) Ernesto purchased 100 postage stamps worth \$9.90. Half of them were 1 cent stamps and the rest were 14 cent and 22 cent stamps. How many 22 cent stamps did he buy?

5) Warren has 40 coins (all nickels, dimes, and quarters) worth \$4.05. He has 7 more nickels than dimes. How many quarters does Warren have?

1) A collection of quarters and dimes is worth \$6.75. The number of dimes is 4 less than three times the number of quarters. How many of each are there?

	\$	#	total \$
D	10	$3q-4$	$30q-40$
Q	25	q	$25q$

$$30q - 40 + 25q = 675$$

$$55q - 40 = 675$$

$$\begin{array}{r} 55q = 715 \\ \underline{55} \quad \underline{55} \\ 9 = 13 \end{array}$$

13 quarters
35 dimes

2) I have twice as many nickels as quarters. If the coins are worth \$4.90, how many quarters are there?

	#	val	total val
N	$2q$	5	$10q$
Q	q	25	$25q$

$$10q + 25q = 490$$

$$\frac{35q}{35} = \frac{490}{35} \quad q = 14$$

14 quarters

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