

Day 2

1. Let $C = \#$ of ice cream cones
 $S = \#$ of sundaes

$$\begin{cases} C + S = 172 \\ 1.01C + 2.35S = 294.20 \end{cases}$$

$$\begin{array}{r} -1.01C - 1.1S = -189.20 \\ + 1.01C + 2.35S = 294.20 \\ \hline \end{array}$$

$$1.25S = 105 \\ S = 84$$

$$C + 84 = 172 \\ C = 88$$

84 sundaes & 88 ice cream cones were sold.

2. Let $s =$ price of shirt
 $p =$ price of pants

$$\begin{cases} 85.50 = 4s + 3p \\ 115.00 = 3s + 5p \end{cases}$$

$$\begin{array}{r} (85.5 = 4s + 3p) \cdot 5 \\ (115.00 = 3s + 5p) \cdot -3 \\ \hline \end{array} \Rightarrow \begin{array}{r} 427.5 = 20s + 15p \\ -345 = -9s - 15p \\ \hline 82.5 = 11s \\ s = 7.5095 \end{array}$$

Shirts cost \$7.5 & pants cost \$18.5

$$85.5 = 4(7.5) + 3p \\ 3p = 55.5 \\ p = 18.5$$

3. Let $a = \#$ of 2 pt ?s
 $b = \#$ of 4 pt ?s

$$\begin{cases} 40 = a + b \\ 100 = 2a + 4b \end{cases} \Rightarrow \begin{array}{r} -80 = -2a - 2b \\ +100 = 2a + 4b \\ \hline 20 = 2b \\ b = 10 \\ a = 30 \end{array}$$

30 2 pt ?s & 10 4 pt ?s were on the test.

4. $x + y = 24$
 $x - y = 15$

$$\begin{array}{r} 2x = 39 \\ x = 19.5 \\ y = 4.5 \end{array}$$

Let $x = 1^{\text{st}}$ #
 $y = 2^{\text{nd}}$ #

The numbers are 19.5 & 4.5.

5.

$$315 + 4x = \text{Cost}$$

$$25x = \text{Revenue}$$

Let $x = \#$ of offices

$$315 + 4x = 25x$$

$$\frac{315}{21} = \frac{21x}{21}$$

$$x = 15$$

15 offices

6. Let $a = \#$ of free throws
 $b = \#$ of 2 pt shots

$$- a + b = 25$$

$$a + 2b = 40$$

$$b = 15$$

$$a = 10$$

Shag made 10
free throws &
15 2pt shots.7. Let $t = \#$ of tricycles
 $b = \#$ of bicycles.

$$(t + b = 16) \cdot 2$$

$$3t + 2b = 45$$

$$\Rightarrow \begin{array}{r} -2t - 2b = -32 \\ 3t + 2b = 45 \\ \hline t = 13 \end{array}$$

$$b = 3$$

There are 13 tricycles & 3 bicycles.

8. Let $b = \text{calories in a big mac}$ ($1000 = b + 2f$) - 1
 $f = \text{" in a fries}$ ($2080 = 3b + 2f$)

$$\begin{array}{r} -1000 = -b - 2f \\ + 2080 = 3b + 2f \\ \hline 1080 = 2b \\ b = 540 \end{array}$$

$$\begin{array}{r} 1000 = 540 + 2f \\ 460 = 2f \\ f = 230 \end{array}$$

There are 540
cal in a big
mac & 230
cal in a
small Fry.9. Let $C = \text{total cost}$
 $y = \#$ of years

$$C = 43700 + 1454y$$

$$-(C = 38650 + 2078y)$$

$$\begin{array}{r} C = 43700 + 1454y \\ - C = -38650 - 2078y \\ \hline 0 = 5050 - 624y \end{array}$$

$$624y = 5050$$

$$y = 8.093 \text{ yrs}$$

total cost is \$55467.15

10. let $n = \#$ of nickels $q = \#$ of quarters

$$(50 = n + q) (-.05)$$

$$10.30 = .05n + .25q$$

$$50 = n + 39$$

$$n = 11$$

$$-2.50 = -.05n - .05q$$

$$+ 10.30 = .05n + .25q$$

$$\frac{7.8 = .2q}{.2} \quad q = 39$$

has 11 nickels & 39 quarters