

Warm Up

Week 8

A store sold 28 pairs of cross-trainer shoes for a total of \$2220. Nike sold for \$70 per pair and Reebok sold for \$90 per pair. How many of each style were sold?

$$\begin{array}{r}
 70x + 90y = 2220 \\
 -70(x + y = 28) \rightarrow \\
 \hline
 x + 13 = 28 \\
 -13 \quad -13 \\
 \hline
 x = 15
 \end{array}$$

$$\begin{array}{r}
 70x + 90y = 2220 \\
 -70x - 70y = -1960 \\
 \hline
 20y = 260 \\
 \frac{20y}{20} = \frac{260}{20} \\
 y = 13
 \end{array}$$

$70(15) + 90(13) = 2220$
 15 Nike
 13 Reebok

#1 & 2

*If you have 3 money numbers

-write **Money Equation**

$$\$x + \$y = \text{Total } \$$$

-write **Amount Equation**

$$x + y = \text{Total } \#$$

-solve for both variables

*Label your Answers

$$x =$$

$$y =$$

*If problem asks for **SAME** amount

-write equations in $y = mx + b$ format

-set equations **EQUAL** to each other

$$mx + b = mx + b \quad \# \# \#$$

-**Solve** for the ONE VARIABLE

Same means set Equations =

If not \$ Equation OR Same,

**Need to find 2 different equations

(typically each sentence gives you an eqn)

*if % you need to change into decimal

*if money, change that into decimal

(ex: quarters = .25, dime = .10)

1. Georgia has only dimes and quarters in her bag. She has a total of 18 coins that are worth \$3. How many dimes and how many quarters does she have?

$$\begin{array}{r}
 0.10 \quad 0.25 \\
 \times \quad \times \\
 0.10x + 0.25y = 3 \\
 -0.10(x + y = 18) \rightarrow + \begin{array}{r} 0.10x + 0.25y = 3 \\ -0.10x - 0.10y = -1.8 \\ \hline 0.15y = 1.2 \\ 0.15 \quad 0.15 \\ \hline y = 8 \end{array} \\
 \begin{array}{r} x + y = 18 \\ -8 \quad -8 \\ \hline x = 10 \end{array}
 \end{array}$$

10 Dimes
8 Quarters

2. A farmer raises chickens and cows. There are 34 animals in all. The farmer counts 110 legs on these animals. Write and solve a system of equations to find the number of each type of animal.

$$\begin{array}{r}
 2 \text{ legs} \quad 4 \text{ legs} \\
 \times \quad \times \\
 2x + 4y = 110 \\
 -2(x + y = 34) \rightarrow + \begin{array}{r} 2x + 4y = 110 \\ -2x - 2y = -68 \\ \hline 2y = 42 \\ \frac{2y}{2} = \frac{42}{2} \\ \hline y = 21 \end{array} \\
 \begin{array}{r} x + y = 34 \\ -21 \quad -21 \\ \hline x = 13 \end{array}
 \end{array}$$

13 chickens
21 cows

*Word Problem Packet #2

*7.4 p.421 #20-30even, **32-44even**

Due tomorrow

EC