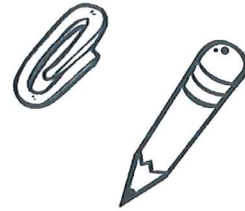


For each of the problems, define the variables you would use and set up a system using those variables to solve the problem.

- 1.) Avery and Mead went to an office supplies store to buy paper clips and pencils. Avery bought 15 boxes of paper clips and 7 packages of pencils, while Mead bought 12 boxes of paper clips and 10 packages of pencils. If Avery spent \$55.40 and Mead spent \$61.70, how much does a box of paper clips and a package of pencils cost?

Define variables: $X = \text{cost of paper clips}$
 $y = \text{cost of pencils}$

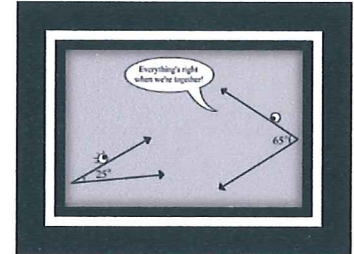


System:

$$\begin{aligned} 15x + 7y &= 55.40 \\ 12x + 10y &= 61.70 \end{aligned}$$

- 2.) Two angles are complementary. One angle is 81° less than twice the other angle. Find the measure of each angle.

Define variables: $X = 1^{\text{st}} \text{ angle}$
 $y = \text{other angle}$



System:

$$\begin{aligned} x + y &= 90 \\ x &= 2y - 81 \end{aligned}$$

- 3.) Margie needs to buy a week's supply of medication for 24 dogs and 164 cats at a local shelter. The medication for each dog costs twice as much as the medication for a cat. If her budget is \$4,240, how much can Margie spend on medication for each dog?

Define variables: $X = \text{cost for dog's meds}$
 $y = \text{cost for cats meds}$

System:

$$\begin{aligned} x &= 2y \\ 24x + 164y &= 4240 \end{aligned}$$



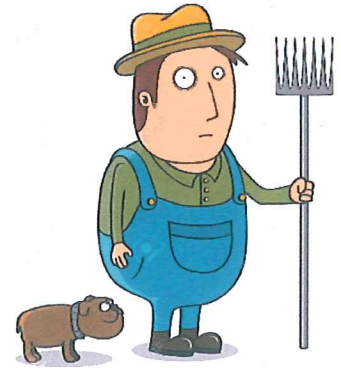
- 4.) Farmer Bob houses a total of 13 pigs and chickens. A total of 40 feet can be counted among these pigs and chickens. How many of the animals are pigs, and how many are chickens?

Define variables: $x = \# \text{ of Pigs}$

$y = \# \text{ of Chickens}$

System:

$$\begin{aligned}x + y &= 13 \\4x + 2y &= 40\end{aligned}$$



- 5.) Seventy-eight tickets were sold for a private Taylor Swift concert. If \$483 was collected and seats cost either \$2.50 or \$10.50, how many of each were sold?

Define variables: $x = \# \text{ of } \$2.50 \text{ tickets sold}$

$y = \# \text{ of } \$10.50 \text{ tickets sold}$

System:

$$\begin{aligned}x + y &= 78 \\2.50x + 10.50y &= 483\end{aligned}$$



- 6.) During a trip to the gas station you fill your vehicle with 15 gallons of premium gasoline and a 5 gallon gas can with regular gasoline. The price of premium gasoline is 25 cents greater than the price of regular gasoline. If you pay a total of \$76.75, what is the price per gallon of regular and premium gasoline?

Define variables: $x = \text{cost of Premium gas}$

$y = \text{cost of regular gas}$

System:

$$\begin{aligned}x &= y + 0.25 \\15x + 5y &= 76.75\end{aligned}$$

