

Sample Problem Solutions

#13.

$$\begin{aligned}\left(\begin{array}{c} \text{Total number} \\ \text{of chickens} \end{array}\right) &= 17 + 32 + 29 \\ &= 78 \text{ chickens}\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Total number} \\ \text{of eggs} \end{array}\right) &= 13 + 26 + 18 \\ &= 57 \text{ eggs}\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Number of chickens} \\ \text{who didn't lay} \end{array}\right) &= \left(\begin{array}{c} \text{Total number} \\ \text{of chickens} \end{array}\right) - \left(\begin{array}{c} \text{Total number} \\ \text{of eggs} \end{array}\right) \\ &= 78 - 57 \\ &= 21 \text{ chickens}\end{aligned}$$

#60.

$$\begin{aligned}\left(\begin{array}{c} \text{Donald's} \\ \text{Monday flies} \end{array}\right) &= \left(\begin{array}{c} \text{Daisy's} \\ \text{Monday flies} \end{array}\right) \times 2 \\ &= 15 \times 2 \\ &= 30 \text{ flies}\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Donald's} \\ \text{Tuesday flies} \end{array}\right) &= \left(\begin{array}{c} \text{Donald's} \\ \text{Monday flies} \end{array}\right) + 4 \\ &= 30 + 4 \\ &= 34 \text{ flies}\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Daisy's} \\ \text{Tuesday flies} \end{array}\right) &= \text{Half of Donald's Tuesday flies} \\ &= \text{Half of 34} \\ &= 17 \text{ flies}\end{aligned}$$

#80.

$$\begin{aligned}\left(\begin{array}{c} \text{Initial cost of the} \\ \text{goat kids} \end{array} \right) &= \left(\begin{array}{c} \text{Total weight of} \\ \text{the goat kids} \end{array} \right) \times \left(\begin{array}{c} \text{Price per} \\ \text{pound} \end{array} \right) \\ &= (12 + 13 + 15) \times 3 \\ &= 40 \times 3 \\ &= \$120\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Cost to feed} \\ \text{the goat kids} \end{array} \right) &= \left(\begin{array}{c} \text{Number of} \\ \text{bags} \end{array} \right) \times \left(\begin{array}{c} \text{Price per} \\ \text{bag} \end{array} \right) \\ &= 8 \times 10 \\ &= \$80\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Total seller 's} \\ \text{comission} \end{array} \right) &= \left(\begin{array}{c} \text{Number of} \\ \text{goats} \end{array} \right) \times \left(\begin{array}{c} \text{comission} \\ \text{per goat} \end{array} \right) \\ &= 3 \times 5 \\ &= \$15\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Total cost to raise} \\ \text{the 3 goat kids} \end{array} \right) &= \left(\begin{array}{c} \text{Initial cost of} \\ \text{the goat kids} \end{array} \right) + \left(\begin{array}{c} \text{Cost to feed} \\ \text{the goat kids} \end{array} \right) \\ &\quad \left(\begin{array}{c} \text{Total seller 's} \\ \text{comission} \end{array} \right) \\ &= 120 + 80 + 15 \\ &= \$215\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Money earned when Darrell} \\ \text{sold the goat kids} \end{array} \right) &= \left(\begin{array}{c} \text{Total weight of the goat kids} \\ \text{when Darrell sold them} \end{array} \right) \times \left(\begin{array}{c} \text{price per} \\ \text{pound} \end{array} \right) \\ &= (78 + 84 + 82) \times 2 \\ &= 244 \times 2 \\ &= \$488\end{aligned}$$

$$\begin{aligned}\left(\begin{array}{c} \text{Darrell 's} \\ \text{profit} \end{array} \right) &= \left(\begin{array}{c} \text{Money} \\ \text{earned} \end{array} \right) - \left(\begin{array}{c} \text{Total} \\ \text{cost} \end{array} \right) \\ &= 488 - 215 \\ &= \$273\end{aligned}$$