1) On Sunday, Sheldon bought $4\frac{1}{2}$ kg of plant food. He used $1\frac{2}{3}$ kg on his strawberry plants, and used $\frac{1}{4}$ kg for his tomato plants.

a) How many kilograms of plant food did Sheldon have left? Write one or more equations to show how you reached your answer.

\[
\begin{align*}
4\frac{1}{2} \text{ kg} & \quad 4\frac{1}{4} - 1\frac{2}{3} \\
\text{left} & \quad 3 \frac{1}{4} - \frac{2}{3} \\
& \quad = 3 \frac{3}{12} - \frac{8}{12} \\
& \quad = 2 \frac{15}{12} - \frac{8}{12} \\
& \quad = 2 \frac{7}{12} \\
\end{align*}
\]

Sheldon had $2\frac{7}{12}$ kg left.

b) Sheldon wants to feed his strawberry plants 2 more times, and his tomato plants one more time. He will use the same amounts of plant food as before. How much plant food will he need? Does he have enough left to do so? Explain your answer using words, pictures or numbers.

\[
\begin{align*}
1\frac{2}{3} + 1\frac{2}{3} & \quad = 3 + \frac{2}{3} \\
& \quad = 3 \frac{1}{3} \\
3 \frac{1}{3} + \frac{1}{4} & \quad = 3 \frac{4}{12} + \frac{3}{12} \\
& \quad = 3 \frac{7}{12} \\
\end{align*}
\]

No, Sheldon does not have enough because.

\[
2\frac{7}{12} < 3\frac{7}{12}
\]

What he has left

What he needs.
2) Sheldon harvests the strawberries and tomatoes in his garden.

a) He picks $1\frac{2}{5}$ kg less strawberries in the morning than in the afternoon. If Sheldon picks $2\frac{1}{4}$ kg in the morning, how many kilograms of strawberries does he pick in the afternoon? Explain your answer using words, pictures or equations.

\[
\begin{align*}
M & = 2\frac{1}{4} \text{ kg} \\
A & = 1\frac{2}{5} \text{ kg}
\end{align*}
\]

\[
\begin{align*}
2\frac{1}{4} + 1\frac{2}{5} & = 3\frac{1}{4} + \frac{2}{5} \\
& = 3\frac{5}{20} + \frac{8}{20} \\
& = 3\frac{13}{20}
\end{align*}
\]

Sheldon picked $3\frac{13}{20}$ kg strawberries in the afternoon.

b) Sheldon also picks tomatoes from his garden. He picked $5\frac{3}{10}$ kg but 1.5 kg were rotten and had to be thrown away. How many kilograms of tomatoes were not rotten? Write an equation that shows how you reached your answer.

\[
\begin{align*}
5\frac{3}{10} - 1\frac{5}{10} & = 4\frac{3}{10} - \frac{5}{10} \\
& = 3\frac{8}{10} - \frac{5}{10} \\
& = 3\frac{3}{10} \text{ kg or } 3\frac{4}{5} \text{ kg}
\end{align*}
\]

3\frac{8}{10} \text{ kg or } 3\frac{4}{5} \text{ kg} were not rotten.

c) After throwing away the rotten tomatoes, did Sheldon get more kilograms of strawberries or tomatoes? How many more kilograms? Explain your answer using an equation.

\[
\begin{align*}
\text{Tomatoes: } & 3\frac{8}{10} \text{ kg} \\
\text{Strawberries: } & 2\frac{1}{4} \text{ kg} + 2\frac{1}{4} \text{ kg} + 1\frac{2}{5} \text{ kg} \\
& = 4\frac{1}{2} \text{ kg} + 1\frac{2}{5} \text{ kg} \\
& = 4\frac{5}{10} \text{ kg} + 1\frac{4}{10} \text{ kg} \\
& = 5\frac{9}{10} \text{ kg}
\end{align*}
\]

\[
\begin{align*}
5\frac{9}{10} \text{ kg} & > 3\frac{8}{10} \text{ kg} \\
\text{Sheldon got more strawberries than tomatoes.}
\end{align*}
\]

\[
\begin{align*}
5\frac{9}{10} - 3\frac{8}{10} & = 2\frac{1}{10} \\
\text{He got } 2\frac{1}{10} \text{ kg more strawberries.}
\end{align*}
\]