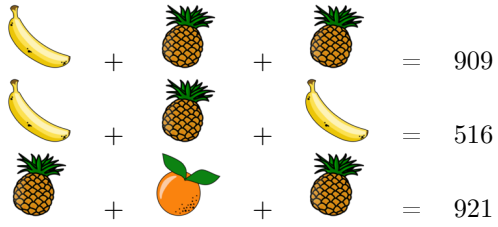
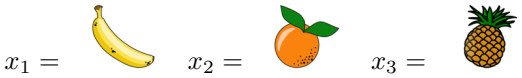
1. **Problem**
Given the following information:



Compute:

(a) 434
(b) 378
(c) 921
(d) 678
(e) 528

Solution
The information provided can be interpreted as the price for three fruit baskets with different combinations of the three fruits. This corresponds to a system of linear equations where the price of the three fruits is the vector of unknowns x:



The system of linear equations is then:

$$\begin{pmatrix} 1 & 0 & 2 \\ 2 & 0 & 1 \\ 0 & 1 & 2 \end{pmatrix} \cdot \begin{pmatrix} x_1 \\ x_2 \\ x_3 \end{pmatrix} = \begin{pmatrix} 909 \\ 516 \\ 921 \end{pmatrix}$$

This can be solved using any solution algorithm, e.g., elimination:

$$x_1 = 41,\ x_2 = 53,\ x_3 = 434.$$

Based on the three prices for the different fruits it is straightforward to compute the total price of the fourth fruit basket via:

$$\begin{array}{ccccccc} x_1 & + & x_2 & + & x_3 & = & \\ 41 & + & 53 & + & 434 & = & 528. \end{array}$$