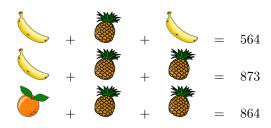
1. Problem

Given the following information:



Compute:



- (a) 394
- (b) 555
- (c) 507
- (d) 873
- (e) 594

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:

$$x_1 =$$
 $x_2 =$ $x_3 =$

The system of linear equations is then:

$$\begin{pmatrix} 2 & 0 & 1 \\ 1 & 0 & 2 \\ 0 & 1 & 2 \end{pmatrix} \cdot \begin{pmatrix} x_1 \\ x_2 \\ x_3 \end{pmatrix} = \begin{pmatrix} 564 \\ 873 \\ 864 \end{pmatrix}$$

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

$$x_1 = 85, x_2 = 76, x_3 = 394.$$

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

1