Project 1

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1 Exercise 1

Exercise 1.1 Set up a system of linear equations based on this problem from the *Nine Chapters on the Mathematical Art.*

The text then shows three columns set up on a counting board (a tool for mathematical calculation) in the following manner:

The given augmented matrix is:

$$
\begin{array}{ccc}
1 & 2 & 3 \\
2 & 3 & 2 \\
3 & 1 & 1 \\
26 & 34 & 39
\end{array}
$$

Solution:
Setting the system of linear equations:

$$
\begin{aligned}
3x_1 + 2x_2 + x_3 &= 39 \\
2x_1 + 3x_2 + x_3 &= 34 \\
x_1 + 2x_2 + 3x_3 &= 26
\end{aligned}
\tag{1}
$$