

Q1. Is $(6, 4, -2)$ a solution of the equation $3x_2 + x_3 - x_1 = 4$?

Q2. Determine the values of k so that the following system has:

- (i) a unique solution
- (ii) no solution
- (iii) an infinite number of solutions

$$\begin{aligned}x_1 + x_2 - x_3 &= 1 \\2x_1 + 3x_2 + kx_3 &= 3 \\x_1 + kx_2 + 3x_3 &= 2\end{aligned}$$