

求解聯立方程組 $\begin{cases} 2x_1 + 2x_2 + 3x_3 = 6 \\ 3x_1 + 2x_2 + 3x_3 = 7 \\ 2x_1 - 3x_2 + 2x_3 = 9 \end{cases}$ 。 [104 聯合環安 7]

Solution : $\Delta = \begin{vmatrix} 2 & 2 & 3 \\ 3 & 2 & 3 \\ 2 & -3 & 2 \end{vmatrix} = -13, \Delta_1 = \begin{vmatrix} 6 & 2 & 3 \\ 7 & 2 & 3 \\ 9 & -3 & 2 \end{vmatrix} = -13, \Delta_2 = \begin{vmatrix} 2 & 6 & 3 \\ 3 & 7 & 3 \\ 2 & 9 & 2 \end{vmatrix} = 13, \Delta_3 = \begin{vmatrix} 2 & 2 & 6 \\ 3 & 2 & 7 \\ 2 & -3 & 9 \end{vmatrix} = -26$

$x_1 = \frac{\Delta_1}{\Delta} = \frac{-13}{-13} = 1, x_2 = \frac{\Delta_2}{\Delta} = \frac{13}{-13} = -1, x_3 = \frac{\Delta_3}{\Delta} = \frac{-26}{-13} = 2$

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