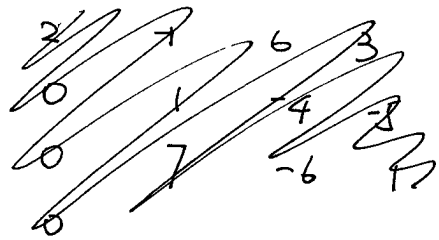
35. 4. $\begin{vmatrix} 1 & t & t^2 \\ t & t^2 & 1 \\ t^2 & t & 1 \end{vmatrix} = \begin{vmatrix} t^2 & 1 \\ t & 1 \end{vmatrix} - t \begin{vmatrix} t & 1 \\ t^2 & 1 \end{vmatrix} + t^2 \begin{vmatrix} t & t^2 \\ t^2 & t \end{vmatrix}$

$= t^2 - t - t(t - t^2) + t^2(t^2 - t^4)$

$= -t + t^3 + t^4 - t^6$

6. $\begin{vmatrix} 2 & -1 & 6 & 3 \\ 1 & 0 & 1 & -1 \\ 1 & 3 & 0 & 2 \\ 1 & -1 & 1 & 0 \end{vmatrix} =$ 

$2 \begin{vmatrix} 0 & 1 & -1 \\ 3 & 0 & 2 \\ -1 & 1 & 0 \end{vmatrix}$

$- \begin{vmatrix} -1 & 6 & 3 \\ 3 & 0 & 2 \\ -1 & 1 & 0 \end{vmatrix} + \begin{vmatrix} -1 & 6 & 3 \\ 0 & 1 & -1 \\ -1 & 1 & 0 \end{vmatrix} - \begin{vmatrix} -1 & 6 & 3 \\ 0 & 1 & -1 \\ 3 & 0 & 2 \end{vmatrix}$

$= 2 \cdot (-2 - 3) - (-(-2) - 6(2) + 3(3)) + (-1 + 6 + 3) - (-2 - 6 \cdot 3 - 3 \cdot 3)$

$= 2 \cdot (-5) - (-1) + 8 - 29$

$= -30$

10. $\begin{cases} x_1 + x_2 - x_3 = 0 \\ 2x_1 + x_3 = 14 \\ x_2 + x_3 = 13 \end{cases} \Rightarrow \begin{cases} x_1 = \frac{14 - x_3}{2} \\ x_2 = 13 - x_3 \end{cases} \Rightarrow \frac{14 - x_3}{2} + 13 - x_3 - x_3 = 0$

$\Rightarrow x_3 = 8 \Rightarrow \begin{cases} x_1 = 3 \\ x_2 = 5 \\ x_3 = 8 \end{cases}$