

$$1. \quad \left. \begin{aligned} x &= 1 + 0t \\ y &= 3 + (-1)t \\ z &= 4t \end{aligned} \right\} \text{Line}$$

$$\begin{vmatrix} i & j & k \\ 1 & 1 & 0 \\ 0 & 1 & 1 \end{vmatrix} = +1j - j + k$$

$$\rightarrow +x - y + z = 0 \quad \text{Plane}$$

$$+1 - 3 + t + 4t = 5t - 2 = 0 \rightarrow t = \frac{2}{5} \quad \text{Intersect}$$

$$(1, \frac{3}{5}, \frac{8}{5})$$