

$$\begin{cases} (1) & a^2x + 2y + 3z = -1 \\ (2) & ay + (a-1)z = a+1 \\ (3) & (a^2-1)z = a+1 \quad | : (a^2-1) \end{cases}$$

$$(3') \quad \boxed{z = \frac{a+1}{a^2-1}}, \quad a^2 \neq 1$$

$$(2') \quad ay + (a-1)\left(\frac{a+1}{a^2-1}\right) = a+1, \quad a^2 \neq 1$$

$$ay = a+1 - (a-1)\left(\frac{a+1}{a^2-1}\right), \quad a^2 \neq 1 \quad | \cdot (a^2-1) \quad | (a-1)(a+1) = a^2-1$$

$$y = \frac{a+1}{a} - \frac{\left(\frac{a^2-1}{a^2-1}\right)}{a} =$$

$$= \frac{a+1}{a} - \frac{1}{a} =$$

$$= \frac{a}{a} =$$

$$\boxed{y = 1}$$

$$(1') \quad a^2x + 2(1) + 3\left(\frac{a+1}{a^2-1}\right) = -1 \quad | -2 - 3(\dots)$$

$$a^2x = -\frac{3(a^2-1)}{a^2-1} - \frac{3a+3}{a^2-1}$$

$$= \frac{-3a^2+3-3a-3}{a^2-1}$$

$$= \frac{-3a^2-3a}{a^2-1}$$

$$x = \frac{-3a^2-3a}{a^2(a^2-1)} =$$

$$| : a^2$$