



式4



$y + \frac{1}{z} = 1, z + \frac{1}{x} = 1$ のとき, $x + \frac{1}{y}$ の値を求めよ。

$$z = 1 - \frac{1}{x}$$

$$y + \frac{1}{1 - \frac{1}{x}} = 1$$

$$y + \frac{x}{x-1} = 1$$

$$\frac{y}{x-1} = 1 - \frac{x}{x-1} \quad \text{ここで } x + \frac{1}{y} \text{ だけを残すと}$$

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

$$= x - x + 1$$

$$= 1$$

$$\therefore \underline{x + \frac{1}{y} = 1}$$