1- $r: \frac{x+7}{3} = 5 - y = \frac{z-9}{4}$

$s: \begin{cases} 2x + 2y - z - 10 = 0 \\ x - y - z - 22 = 0 \end{cases}$

$r: \begin{cases} x = 3t - 7 \\ y = -t + 5 \\ z = 4t + 9 \end{cases}$

$V_r = (3, -1, 4)$

$s: \begin{cases} x = -12 - 3s \\ y = s \\ z = -34 - 4s \end{cases}$

$V_s = (-3, 1, -4)$

$s: \begin{cases} 2x + 2y - z = 10 \\ x - y - z = 22 \cdot (-1) \end{cases}$

$\begin{cases} 2x + 2y - z = 10 \\ -x + y + z = -22 \end{cases}$

$x + 3y = -12 \Rightarrow \begin{cases} 2x + 2y - z = 10 \\ x + 3y = -12 \end{cases}$ $\quad y = s$

$x = -12 - 3s$

2. $(-12 - 3s) + 2s - z = 10$

$-24 - 6s + 2s - z = 10$

$-z = 34 + 4s$

$z = -34 - 4s$

$V_r = (3, -1, 4) \qquad V_s = (-3, 1, -4)$

$x = \frac{3}{-3} = -1 \qquad y = \frac{-1}{1} = -1 \qquad z = \frac{+4}{-4} = -1$

São paralelas