$$d(s,\pi) = d(S,\pi) = \frac{|9\cdot 5 - 15\cdot 0 - 12(-1) + 39|}{\sqrt{9^2+15^2+(-12)^2}} = \frac{96}{\sqrt{450}} = \frac{16\sqrt{2}}{5} = 4{,}534$$

(4) $r: \begin{cases} 7x - 2y + 16 = 0 \\ 6y - 7z + 29 = 0 \end{cases}$ $\begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ 7 & -2 & 0 \\ 0 & 6 & -7 \end{vmatrix} = (14, 49, 42) = \vec{v_r}$ $R(0,8,11)$

$s: \frac{x}{-1} = \frac{y+1}{5} = \frac{z}{6}$ $\vec{v_s}(-1,5,6)$ $S(0,-1,0)$

$$\vec{v_r} \times \vec{v_s} = \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ 14 & 49 & 42 \\ -1 & 5 & 6 \end{vmatrix} = (84, -126, 119) = \vec{v_t}$$

$$\Pi_1: \begin{vmatrix} x & y-8 & z-11 \\ 14 & 49 & 42 \\ 84 & -126 & 119 \end{vmatrix} = 0 \quad 5831x + 3528(y-8) - 1764(z-11) - 4116(z-11) + 5292x - 1666(y-8) =$$

$$11123x + 1862y - 5880z + 49784 = 0$$

$$\Pi_2: \begin{vmatrix} x & y+1 & z \\ 84 & -126 & 119 \\ -1 & 5 & 6 \end{vmatrix} = 0 \quad -756x + 420z - 119(y+1) - 126z - 595x - 504(y+1) = 0$$

$$-1351x - 623(y+1) + 294z = 0$$

$$1351x + 623y - 294z + 623 = 0$$

$$t: \begin{cases} 11123x + 1862y - 5880z + 49784 = 0 \\ 1351x + 623y - 294z + 623 = 0 \end{cases}$$

$$h = \frac{[\vec{RS}, \vec{v_r}, \vec{v_s}]}{|\vec{v_r} \times \vec{v_s}|} = \frac{\begin{vmatrix} 0 & -9 & -11 \\ 14 & 49 & 42 \\ -1 & 5 & 6 \end{vmatrix}}{\sqrt{84^2+126^2+119^2}} = \frac{175}{7\sqrt{757}} = 0{,}908$$

(5) $r: \begin{cases} x = 3+\lambda \\ y = 5+\lambda \\ z = -1-\lambda \end{cases}$ $\frac{|2(3+\lambda) - (5+\lambda) + 2(-1-\lambda) + 1|}{\sqrt{2^2+(-1)^2+2^2}} = 1$

$$\frac{|6 + \cancel{2\lambda} - 5 - \lambda - 2 - \cancel{2\lambda} + 1|}{3} = 1$$

$|-\lambda| = 3$ $\quad \lambda = 3$, $\lambda = -3$

$A(6,8,-4)$
$B(0,2,2)$