$$\begin{array}{cc|c} r & t & \\ \hline -4 & -4 & 0 \\ -1 & -1 & a-1 \\ 2 & 4 & 1 \\ \hline 1 & 1 & 0 \\ -1 & -1 & a-1 \\ 2 & 4 & 1 \\ \hline 1 & 1 & 0 \\ 0 & 0 & a-1 \\ 0 & 2 & 2a-1 \\ \hline 1 & 1 & 0 \\ 0 & 2 & 2-1 \\ 0 & 0 & 0 \end{array}$$

$| : (-4)$

$+ \quad \cdot 2 \quad +$

$\Rightarrow a = 1$

$\Rightarrow r = -\frac{1}{2}$

$\Rightarrow t = \frac{1}{2}$

$S\left(8 \,/\, \frac{3}{2} \,/\, -2\right)$

Aufgabe 6

E $\quad \vec{x} = \begin{pmatrix} 7 \\ 2 \\ 4 \end{pmatrix} + r \begin{pmatrix} 7 \\ 1 \\ 5 \end{pmatrix} + s \begin{pmatrix} -1 \\ -2 \\ 3 \end{pmatrix}$

F. $\quad 3x_1 - x_2 + x_3 = 1$

$$3(7 + 7r - s) - (2 + r - 2s) + (4 + 5r + 3s) = 1$$
$$21 + 21r - 3s - 2 - r + 2s + 4 + 5r + 3s = 1$$
$$23 + 25r + 2s = 1$$
$$s = \frac{-22 - 25r}{2}$$

$$s = -11 - \frac{25}{2} r$$

$$\vec{x} = \begin{pmatrix} 7 \\ 2 \\ 4 \end{pmatrix} + r \begin{pmatrix} 7 \\ 1 \\ 5 \end{pmatrix} + \left(-11 - \frac{25}{2} r\right) \begin{pmatrix} -1 \\ -2 \\ 3 \end{pmatrix}$$

$$= \begin{pmatrix} 18 \\ 24 \\ -29 \end{pmatrix} + r \begin{pmatrix} 19{,}5 \\ 26 \\ -32{,}5 \end{pmatrix}$$