

$$\begin{pmatrix} 2 \\ 7 \\ 3 \end{pmatrix} + r \begin{pmatrix} 4+2a \\ -1+5a \\ 1+3a \end{pmatrix} = \begin{pmatrix} 1 \\ 0 \\ 2 \end{pmatrix} + s \begin{pmatrix} 1 \\ 0 \\ 1 \end{pmatrix} + t \begin{pmatrix} -1 \\ 2 \\ 0 \end{pmatrix}$$

$$\begin{array}{l} \text{(I)} \quad -s + t + (4+2a)r = -1 \\ \text{(II)} \quad -2t + (-1+5a)r = -7 \\ \text{(III)} \quad -s + (1+3a)r = -1 \end{array}$$

$$\begin{array}{l} \text{(I)} \quad -s + t + (4+2a)r = -1 \\ \text{(II)} \quad -2t + (-1+5a)r = -7 \\ \text{(IV)} = \text{(I)} - \text{(III)}: \quad t + (3-a)r = 0 \end{array}$$


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$$\text{(V)} = \text{(II)} + 2\text{(IV)}: \quad (5+3a)r = -7 \Rightarrow r = \frac{-7}{5+3a} \quad \text{für } a \neq -\frac{5}{3}$$

$$\vec{D}_a = \begin{pmatrix} 2 \\ 7 \\ 3 \end{pmatrix} + r \begin{pmatrix} 4+2a \\ -1+5a \\ 1+3a \end{pmatrix} = \begin{pmatrix} 2 \\ 7 \\ 3 \end{pmatrix} + \frac{-7}{5+3a} \begin{pmatrix} 4+2a \\ -1+5a \\ 1+3a \end{pmatrix} = \dots \quad (\text{nicht schön!})$$

$$\text{z.B. } \vec{D}_{-2} = \begin{pmatrix} 2 \\ 0 \\ -2 \end{pmatrix} \quad \text{und} \quad \vec{D}_3 = \begin{pmatrix} -3 \\ 0 \\ -2 \end{pmatrix}$$

$$h = D_{-2}D_3: \begin{pmatrix} -3 \\ 0 \\ -2 \end{pmatrix} + t \begin{pmatrix} -1 \\ 14 \\ 6 \end{pmatrix}$$