**Errata zu den Lösungen** zum Buch: Theo de Jong: **Lineare Algebra**

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**Für Hinweise auf weitere Fehler bin ich sehr dankbar.**
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Aufgaben 2.12 (3):

$$\begin{array}{c} \updownarrow \\ \\ \\ \end{array}\left(\begin{array}{rrr|r} -2 & 3 & -1 & -7 \\ 1 & 4 & -2 & -7 \\ 1 & 2 & 1 & 1 \end{array}\right) \rightsquigarrow \begin{array}{r} \\ +2\downarrow \\ -1\downarrow \end{array}\left(\begin{array}{rrr|r} 1 & 4 & -2 & -7 \\ -2 & 3 & -1 & -7 \\ 1 & 2 & 1 & 1 \end{array}\right) \rightsquigarrow$$

$$\begin{array}{r} \\ \cdot\frac{1}{11} \\ \\ \end{array}\left(\begin{array}{rrr|r} 1 & 4 & -2 & -7 \\ 0 & 11 & -5 & -21 \\ 0 & -2 & 3 & 8 \end{array}\right) \rightsquigarrow \begin{array}{r} \\ \\ +2\downarrow \end{array}\left(\begin{array}{rrr|r} 1 & 4 & -2 & -7 \\ 0 & 1 & -5/11 & -21/11 \\ 0 & -2 & 3 & 8 \end{array}\right) \rightsquigarrow$$

$$\left(\begin{array}{rrr|r} 1 & 4 & -2 & -7 \\ 0 & 1 & -5/11 & -21/11 \\ 0 & 0 & 23/11 & 46/11 \end{array}\right) \rightsquigarrow \begin{array}{r} \\ +2\uparrow \\ +\frac{5}{11}\uparrow \end{array}\left(\begin{array}{rrr|r} 1 & 4 & -2 & -7 \\ 0 & 1 & -5/11 & -21/11 \\ 0 & 0 & 1 & 2 \end{array}\right) \rightsquigarrow$$

$$\begin{array}{r} -4\uparrow \\ \\ \\ \end{array}\left(\begin{array}{rrr|r} 1 & 4 & 0 & -3 \\ 0 & 1 & 0 & -1 \\ 0 & 0 & 1 & 2 \end{array}\right) \rightsquigarrow \left(\begin{array}{rrr|r} 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & -1 \\ 0 & 0 & 1 & 2 \end{array}\right) \rightsquigarrow$$

$x_1 = 1, x_2 = -1, x_3 = 2$

| | **falsch** | **richtig** 53, Aufgabe 2.12, 3 |
|---|---|---|
| 55, 4 v.o. | $a_{12} =$ | $-a_{12} =$ |
| 55, 4 v.o. | $a_{21} =$ | $-a_{21} =$ |
| 68, 7 v.o. | $(b_m(x^{k+m}$ | $(b_m x^{k+m}$ |
| 68, 8 v.o. | $b_m$ | $mb_m$ |
| 72, 1 v.o. | L $3x$ und $x$ mal | |
| 72, 18 v.0. | $(x+2) \cdot 3x+4)$ | $(x+2) \cdot (3x+4)$ |
| 139, 6 v.o. | $(t,0,0)$ für $t \in \mathbb{R}$ | $(t,0)$ für $t \neq 0$. |
| 150, 2 v.o. | $a_0$ | $a_o\mathrm{Id}$ |
| 153, 1 v.u. | $x^3-3x^2+2x-1$ | $x^3-2x^2+2x-1$ |
| 154, 6 v.u. | $(x-3)(x^2-4x+15)$ | $(x-3)(x^2-4x+5)$ |
| 157, 2 v.o. | $((0,1,-1),(1,0,0),(0,1,-1))$ | $((0,1,-1),(1,0,0),(1,0,-1))$ |
| 157, 10 v.u. | $(1,a,0)$ | $(a,1,0)$ |
| 6,34 in der Matrix | $a(c+d)$ | $c(a+d)$ |
| 157, 8 v.u. | $e-n$ | $e_n$ |
| 6.37, 2 dritte Matrix | $\begin{pmatrix} -1 & 1 & 0 & 0 \\ 0 & -1 & 1 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$ | $\begin{pmatrix} 1 & 1 & 0 & 0 \\ 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$ |
| 160, 9 v.o. | $a_0 = 16$ | $a_0 = -16$ |
| 160, 8 v.u. | $\begin{pmatrix} 2 & 2 & -1 \\ 2 & 2 & -1 \\ 0 & 0 & 0 \end{pmatrix}$ | $\begin{pmatrix} 2 & 2 & -2 \\ 2 & 2 & -2 \\ 0 & 0 & 0 \end{pmatrix}$ |
| 161, 1 v.o. | $\mathrm{Ker}(A-\mathrm{Id})$ | $\mathrm{Ker}(A-3\mathrm{Id})$ |
| 161, 3 und 4 v.o. | $(7,4,0)$ | $(4,7,0)$ |

| | **falsch** | **richtig** |
|---|---|---|
| 161, 5 v.o. | $A(e_1)$ | $A^2(e_1)$ |
| 161, 5 v.o. | $A^2(e_1)$ | $A^3(e_1)$ |
| 163, 2 v.u. | $C^T$ | $\mathrm{Sp}(C^T)$ |
| 164, 8 v.u | $\frac{12}{(}$ | $\frac{1}{2}($ |
| 164, 4 v.u. | $\sin(nx-mx))$ | $\sin(nx-mx)$ |
| 164, 3 v.u. | $\left(\frac{1}{2n+2m}\cos((n+m)x)\right]_0^{2\pi}+$ | $-\left(\frac{1}{2n+2m}\cos((n+m)x)\right]_0^{2\pi}-$ |
| 165, 10 v.o. | $\frac{1}{sqrt15}$ | $\frac{1}{\sqrt{15}}$ |
| 166, 10 v.o | $1-4\mu+1-\mu$ | $1-4\mu+1-\mu+1$ |
| 166, 11 v.o. | $\mu=\frac{2}{5}$ | $\mu=\frac{3}{5}$ |
| 166, 11 v.o. | $(3,-3,-2,5,-2)$ | $(7,-2,-3,5,-3)$ |
| 166, 12 v.o | $\frac{1}{\sqrt{51}}(3,-3,-2,5,-2)$ | $\frac{5}{\sqrt{96}}(7,-2,-3,5,-3)$ |
| 167, 6 v.o. | erzeugt von den Vektoren | von dem Vektor |
| 169, 4 v.u. | $\langle b_2, b_2$ | $\langle b_2, b_2\rangle$ |
| 170, 8 v.o. | Grad $m$ | Grad $2m$ |
| 170, 12 v.o. | $(2n)!$ | $(-1)^n(2n)!$ |
| 170, 13 v.o | $(2n)!$ | $(-1)^{n+1}(2n)!$ |
| 173, 7 v.o. | $a-6b+3c$ | $a-6b+9c$ |
| Aufg 7.26, Matrix | $\begin{pmatrix} 3 & 4 & 1 \\ 1 & -6 & 3 \\ -2 & 4 & 3 \end{pmatrix}.$ | $\begin{pmatrix} 3 & 4 & 1 \\ 1 & -6 & 8 \\ -2 & 4 & 3 \end{pmatrix}.$ |
| 177, 1 v.o und in der Matrix | $\frac{1}{3}\sqrt{3}$ | $\frac{2}{3}\sqrt{3}$ |
| 181, 15 v.o. | $\langle y, A(e_i)$ | $\langle y, A(e_i)\rangle$ |
| 190, 10 v.u. | $6x^2+3y^2+9z^2-6y+18z=6x^3+3(y-1)^2+9(z+1)^2-12$ | $6x^2+3y^2+9z^2-6y+18z-6=6x^2+3(y-1)^2+9(z+1)^2-18$ |
| 190,1 v.u. | Einschaliges | Zweischaliges |
| 193, 4 v.u. | ?? | 8.5 |