$O(0|0|0)$ $A(6|0|0)$ $B(6|6|6)$ $F: \vec{x}\begin{pmatrix}1\\-1\\0\end{pmatrix}=0$ $G_k: \vec{x}\begin{pmatrix}k\\6\\0\end{pmatrix}=6k$

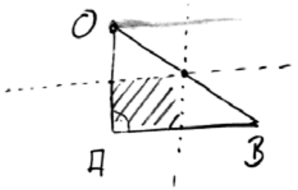
$kx_1+6x_2=6k$

1a $E_{A,B,O}: \vec{x}=\alpha\begin{pmatrix}6\\0\\0\end{pmatrix}+\beta\begin{pmatrix}1\\1\\1\end{pmatrix} \Big\| \begin{pmatrix}0\\1\\-1\end{pmatrix}$

(4)

$E: \vec{x}\begin{pmatrix}0\\1\\-1\end{pmatrix}=0$

$\begin{pmatrix}6\\0\\0\end{pmatrix}\cdot\begin{pmatrix}0\\6\\6\end{pmatrix}=0$

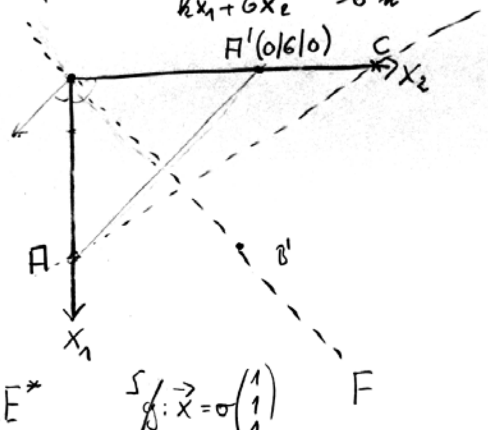


1b Die Hälfte ist gefärbt

(4)

1c

(7)



s $g: \vec{x}=\sigma\begin{pmatrix}1\\1\\1\end{pmatrix}$

$E^*: \vec{x}=\sigma\begin{pmatrix}1\\1\\1\end{pmatrix}+\mu\begin{pmatrix}0\\1\\0\end{pmatrix} \Big\| \begin{pmatrix}1\\0\\-1\end{pmatrix}$

$E^*: \vec{x}\begin{pmatrix}1\\0\\-1\end{pmatrix}=0$

1d s $g: \vec{x}=\sigma\begin{pmatrix}1\\1\\1\end{pmatrix}$

(4)

$\dfrac{\begin{pmatrix}0\\1\\-1\end{pmatrix}\begin{pmatrix}1\\0\\-1\end{pmatrix}}{\sqrt{2}\,\sqrt{2}}=\cos\varphi=\dfrac{1}{2}$ $\varphi=60°$

2a $A(6|0|0)$ $C(0|h|0)$

(4) Ebenen $\|$ zur x_3-Achse, die alle durch A gehen

2b $g: \vec{x}=\begin{pmatrix}6\\0\\0\end{pmatrix}+\varepsilon\begin{pmatrix}0\\0\\1\end{pmatrix}$

(2)

3a $G_k \cap g: \left[\sigma\begin{pmatrix}1\\1\\1\end{pmatrix}\right]\begin{pmatrix}h\\6\\0\end{pmatrix}=6h \Rightarrow \sigma(h+6)=6h \Rightarrow \sigma=\dfrac{6h}{h+6}$

(11)

$S\left(\dfrac{6h}{h+6}\Big|\dfrac{6h}{h+6}\Big|\dfrac{6h}{h+6}\right)$ $V=\dfrac{1}{3}G\cdot H=\dfrac{1}{3}\cdot\dfrac{1}{2}\cancel{6}\cdot h\cdot\dfrac{6h}{h+6}$

$A(6|0|0)$ $O(0|0|0)$ $C(0|h|0)$ $=6\cdot\dfrac{h^2}{h+6}$

3b Bei $h=6$ ist Symmetrie-Ebene.