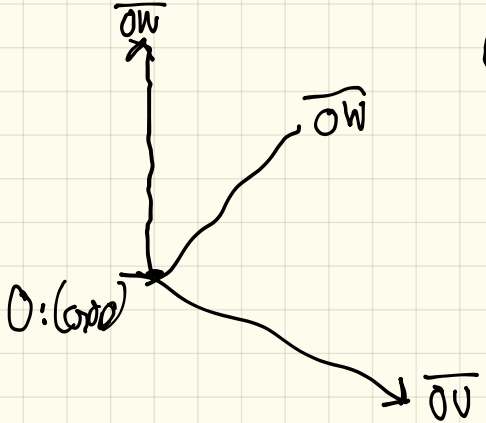
4.15) Alla vektorer med längd 1, $\perp$ $\bar{u}=(1,2,3)$ & $\bar{v}=(1,0,1)$

$\bar{w} \perp \bar{u} \Leftrightarrow \bar{w}\cdot\bar{u}=0$

$\bar{w} \perp \bar{v} \Leftrightarrow \bar{w}\cdot\bar{v}=0$



Def $\bar{u}\cdot\bar{v}=u_1v_1+u_2v_2+u_3v_3$

$$\begin{cases} w_1+2w_2+3w_3=0 \quad (-1) \\ w_1 \qquad\quad +w_3=0 \end{cases} \Leftrightarrow \begin{cases} w_1+2w_2+3w_3=0 \\ -2w_2-2w_3=0 \end{cases}$$

$w_3=s \quad -2w_2-2s=0 \Leftrightarrow w_2=-s$

$w_1+2\cdot(-s)+3s=0 \Leftrightarrow w_1=-s$

$(w_1,w_2,w_3)=s(-1,-1,1)$

Vad blir det s? Vet att $|\bar{w}|=1$

$\Leftrightarrow s\sqrt{3}=1 \Leftrightarrow s=\frac{1}{\sqrt{3}}$

$\bar{w}=\frac{1}{\sqrt{3}}(-1,-1,1)$