

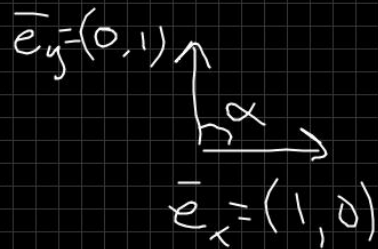
L9 Skalärprodukt

$$\vec{u} \cdot \vec{v} = |\vec{u}| \cdot |\vec{v}| \cdot \cos \theta$$

$$\cos \alpha = \cos 40^\circ = 0$$

$$|\vec{e}_y| = 1$$

$$|\vec{e}_x| = 1$$



$$\underbrace{\vec{e}_x}_{n \times k} \cdot \underbrace{\vec{e}_y}_{n \times k} = (1 \ 0) \begin{pmatrix} 0 \\ 1 \end{pmatrix} = 1 \cdot 0 + 0 \cdot 1 = 0$$

$$\vec{u} = (1, 3)$$

$$\vec{v} = (-2, 4)$$

$$\vec{u} \cdot \vec{v} = (1 \ 3) \begin{pmatrix} -2 \\ 4 \end{pmatrix} = 1 \cdot (-2) + 3 \cdot 4 = -2 + 12 = 10$$

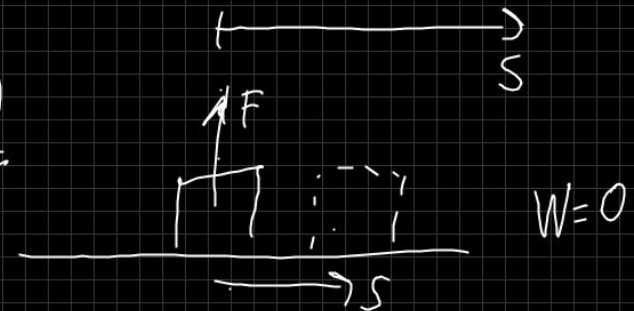
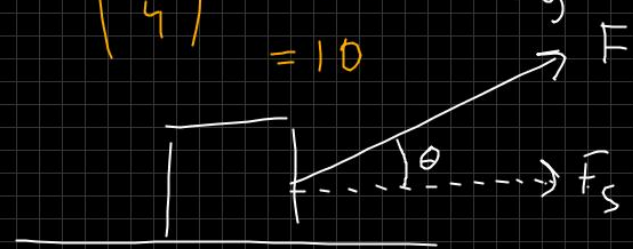
$$\vec{e}_x = (1, 0)$$

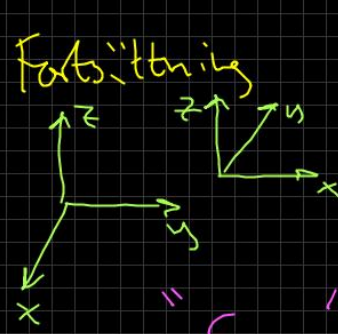
$$\vec{e}_y = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$\vec{e}_y^T = (0, 1)$$

$$W = \vec{F}_s \cdot \vec{s}$$

$$= F \cdot \cos \theta \cdot s$$





skalärprodukt

$$\vec{u} \cdot \vec{v} =$$

"blir en skalär"

tal

$$\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 0 \end{pmatrix} \in \mathbb{R}^3$$

(OBS! Ej att förknippa med multiplikation med en skalär, eller tal.)

"fet" stil är vanligt förekommande

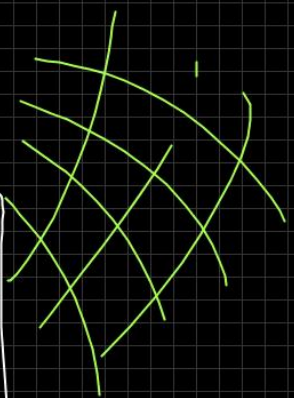
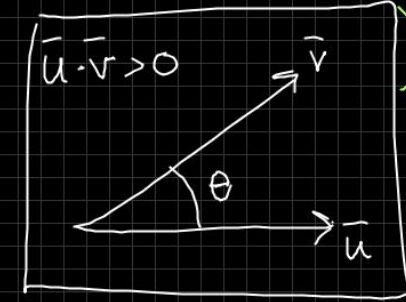
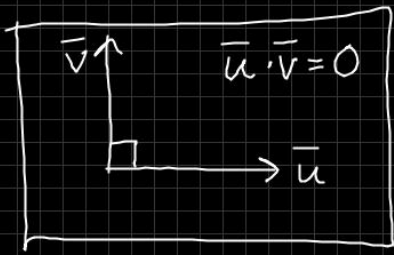
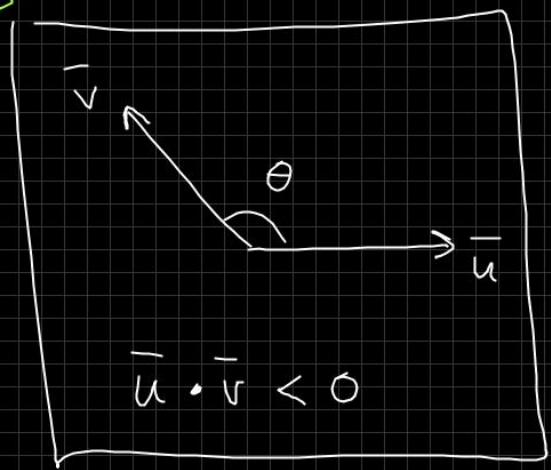
det = 0
rank < 3

$$\vec{u} \cdot \vec{v} = \|\vec{u}\| \cdot \|\vec{v}\| \cdot \cos \Theta$$

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$$\sqrt{u_x^2 + u_y^2}$$

$$[-1, 1]$$



$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$BAX =$$

$$\begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix} \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} 0 & -1 \\ 1 & 0 \end{bmatrix}$$

$A \quad E \quad = \quad A$

