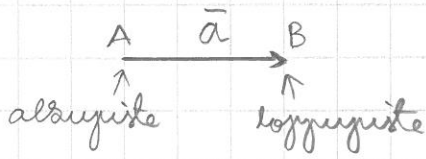


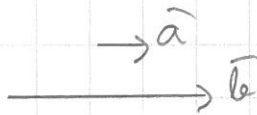
16. Vektorien ominaisuudet

Vektoreille on suunta ja pituus.



$$\overline{AB} = \vec{a} \quad (\vec{a}, a)$$

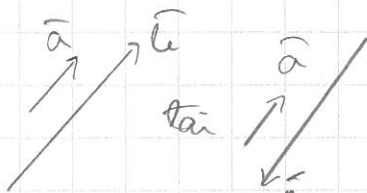
$$|\vec{a}| = 3 \quad (\vec{a}\text{'in pituus})$$



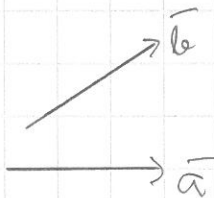
$$\vec{a} \uparrow\uparrow \vec{b} \quad (\text{samansuuntaiset})$$



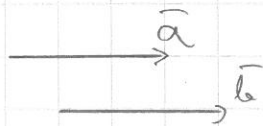
$$\vec{a} \uparrow\downarrow \vec{b} \quad (\text{vastakkäin-suuntaiset})$$



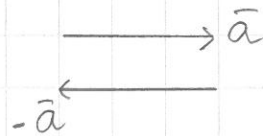
$$\vec{a} \parallel \vec{b} \quad (\text{yhdensuuntaiset})$$



$$\vec{a} \not\parallel \vec{b} \quad (\text{erisuuntaiset})$$

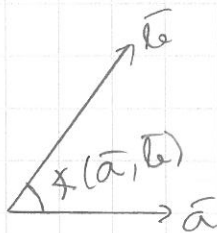


$$\vec{a} = \vec{b} \Leftrightarrow \begin{cases} \vec{a} \uparrow\uparrow \vec{b} \\ |\vec{a}| = |\vec{b}| \end{cases}$$



$$\begin{cases} -\vec{a} \uparrow\downarrow \vec{a} \\ |-\vec{a}| = |\vec{a}| \end{cases}$$

$-\vec{a}$: vektorin \vec{a} vastavektori



$f(\vec{a}, \vec{b})$: vektorien \vec{a} ja \vec{b} välisen kulman suuruus. Vektoreille \vec{a} ja \vec{b} sama alkupiste

16.2, 6, 8

16.2 a) \vec{b}, \vec{d} , b) \vec{e} , c) \vec{d} , d) \vec{e}