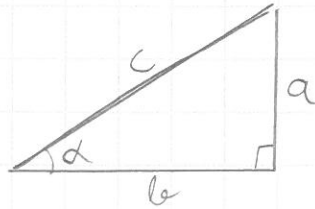


2. Sini ja Kosini

Suorakulmaisen kolmion:

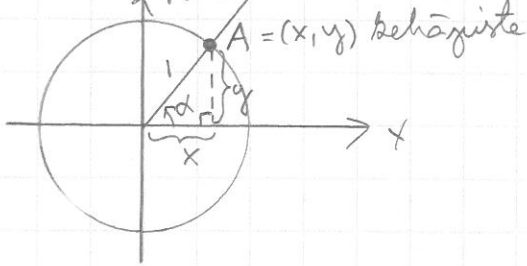


$$\sin \alpha = \frac{a}{c}$$

$$\cos \alpha = \frac{b}{c}$$

$$\tan \alpha = \frac{a}{b}$$

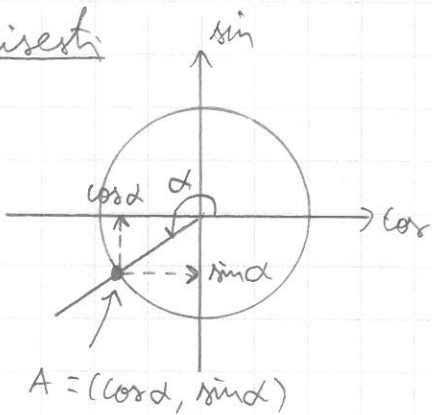
Yksikköympyrä: keskipiste $(0,0)$, säde 1



$$\sin \alpha = \frac{y}{1} = y$$

$$\cos \alpha = \frac{x}{1} = x$$

Yleisesti



Sini on kehäpisteen y-koordinaatti
(ylkөөllö on sininen väri)

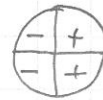
Kosini on kehäpisteen x-koordinaatti
(kossu vie elämän mienraiteille)

Merkit:

$\sin \alpha$



$\cos \alpha$

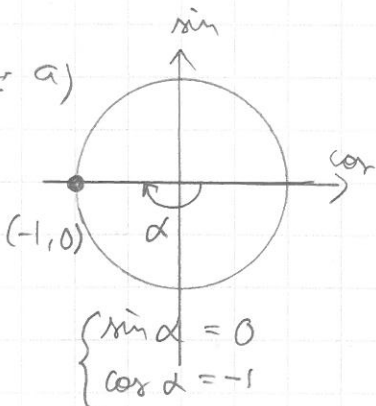


arvot: $-1 \leq \sin \alpha \leq 1$

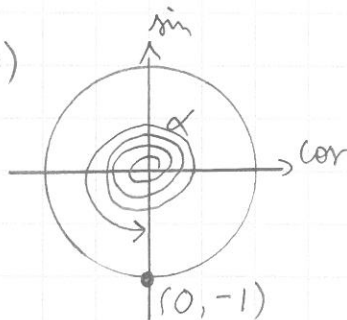
$-1 \leq \cos \alpha \leq 1$

Esim. Määritä ilman laskinta $\sin \alpha$ ja $\cos \alpha$ kun α on a) $-\pi$, b) 1350° .

Ratk. a)



b)



$$\frac{1350^\circ}{360^\circ} = 3,75$$

$$\Rightarrow 1350^\circ = 3 \cdot 360^\circ + 270^\circ$$