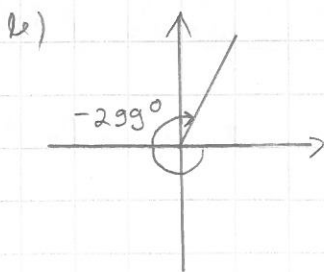
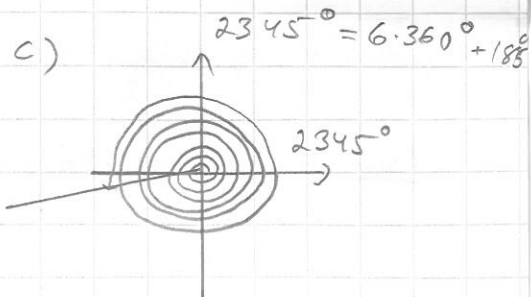


II nelj.



I nelj.



III nelj.

1.17



piiri: $p = l + 2r = \frac{\pi + 12}{6} r$

$\Rightarrow l = \frac{\pi + 12}{6} r - 2r$

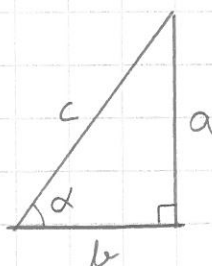
$= \left(\frac{\pi + 12}{6} - 2 \right) r = \left(\frac{\pi + 12}{6} - \frac{12}{6} \right) r$

$= \frac{\pi + 12 - 12}{6} r = \frac{\pi}{6} r$

$\Rightarrow \alpha = \frac{l}{r} = \frac{\frac{\pi}{6} r}{r} = \frac{\pi}{6} \quad \left(= \frac{\pi}{6} \cdot \frac{180^\circ}{\pi} = 30^\circ \right)$

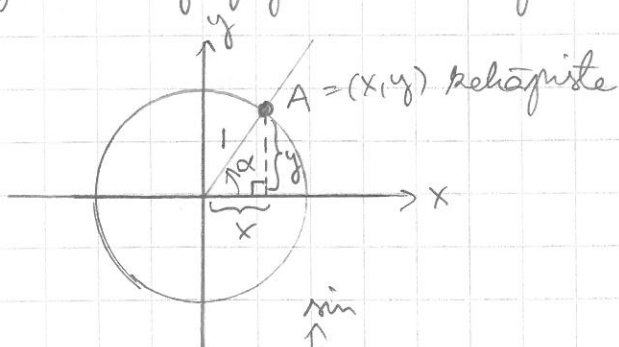
2. Sini ja kosini

Suoratulmainen kolmio:



$$\begin{cases} \sin \alpha = \frac{a}{c} \\ \cos \alpha = \frac{b}{c} \\ \tan \alpha = \frac{a}{b} \end{cases}$$

Yksikköympyrä: keskipiste (0,0), säde 1

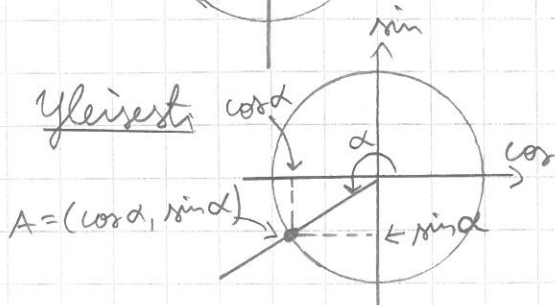


$$\begin{cases} \sin \alpha = \frac{y}{1} = y \\ \cos \alpha = \frac{x}{1} = x \end{cases}$$

$\Rightarrow A = (\cos \alpha, \sin \alpha)$

5.2

Yleisesti



Sini on kehäpisteen y-koordinaatti (yhtäältä sininen väri).

Kosini on kehäpisteen x-koordinaatti (koson vie elämän mienraiteelle).