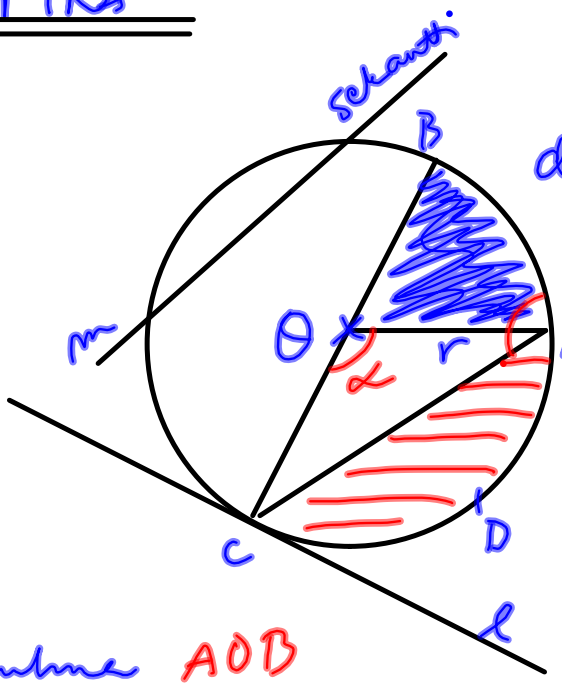
YMPYRÄ



kehä

säde r

d = halkaisija BC
d = 2r

sektori AOB

segmentti ACD

kaari ADC
ABC

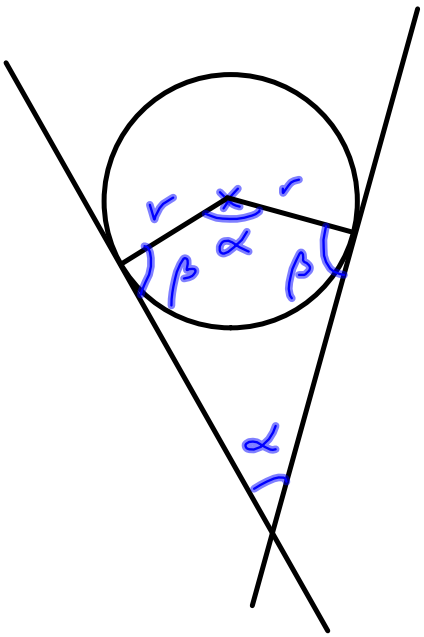
keskuskulma AOB
AOC

kehäkulma ∢ BAC
∢ ACB

tangenttikulma

tangentti t

sekantti s



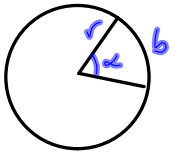
ympyrän kehän pituus

$p = 2\pi r = \pi d \quad | \; d = 2r$

ympyrän p-ala

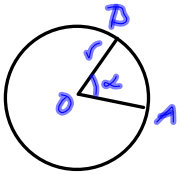
$A = \pi r^2$

ympyrän kaaren pituus



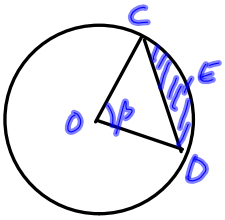
$b = \frac{\alpha}{360^\circ} \cdot 2\pi r$

sektorin pinta-ala



$A_{AOB} = \frac{\alpha}{360^\circ} \cdot \pi r^2$

segmentin pinta-ala



$A_{CED} = A_S - A_K$

esim 1
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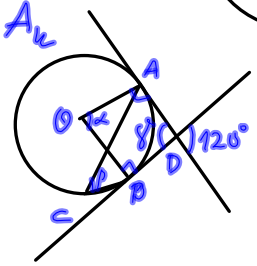

$\alpha =$

$\sphericalangle OAD = 90^\circ$
$\sphericalangle DBO = 90^\circ$
$\alpha = ?$
$\beta = ?$
$\gamma = 120^\circ$
(nistikulmat)
γ tangentikulma
α keskuskulma
$\alpha + \gamma = 180^\circ$
$\alpha = 180^\circ - 120^\circ$
$= 60^\circ$

kehäkulma
$\sphericalangle ACO = \sphericalangle \beta$

β on keskuskulman α kehäkulma

$\beta = \frac{1}{2}\alpha$

$\beta = \frac{1}{2} \cdot 60^\circ = 30^\circ$

V: $\alpha = 60^\circ$ ja $\beta = 30^\circ$.

esim 2
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