

# Geometria

/SLF

## Historiaa

### Euklidinen geometria

- - postulaatit
- - aksioomat  
    crim. paralleeliksioma

### Eukleides

n. 300 ekr

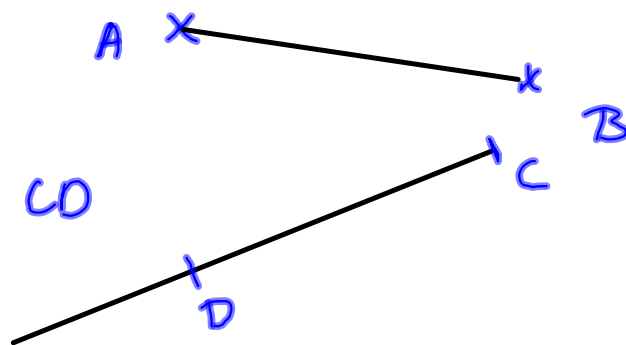
- - Alkeet

## Tasogeometrian peruskäsitteet

- piste

- jana AB

- puolisuora CD



- suora EF

- kulma

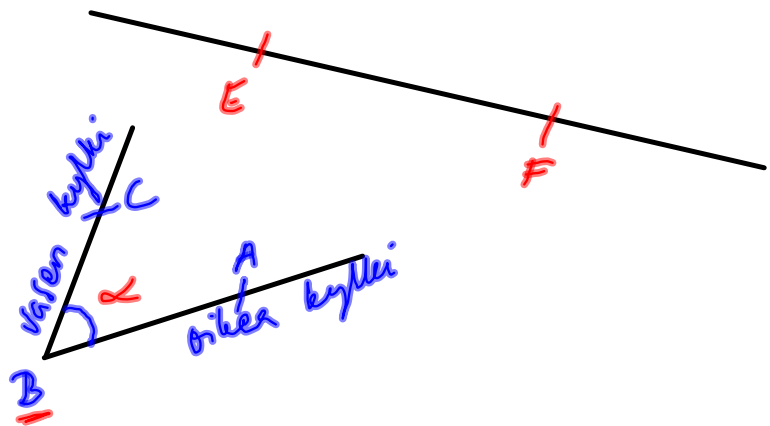
$\sphericalangle ABC$

$\alpha$

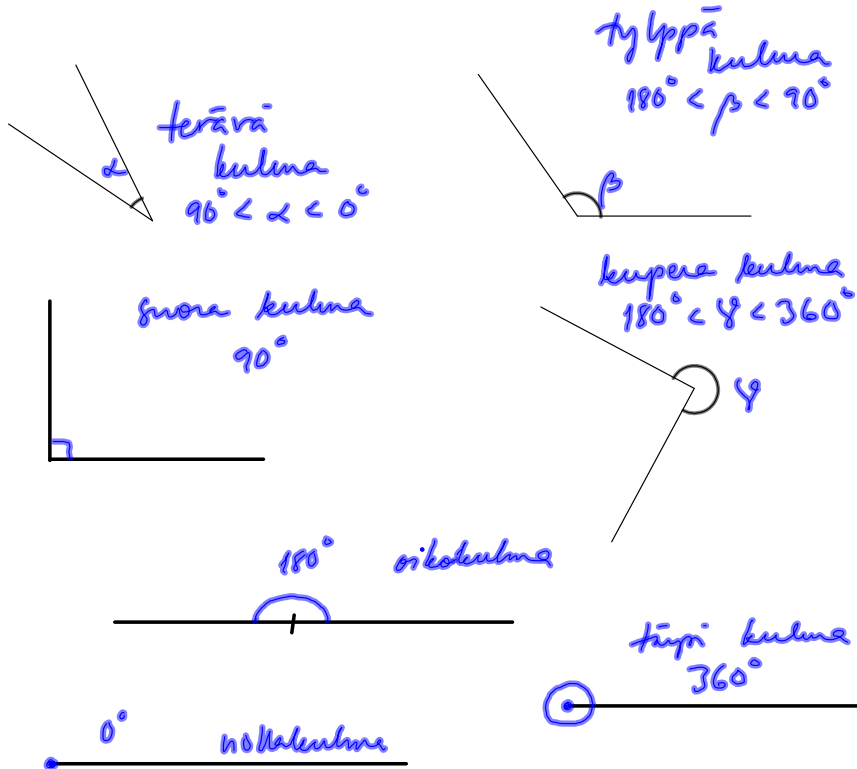
$\beta$

$\gamma$

$\delta$

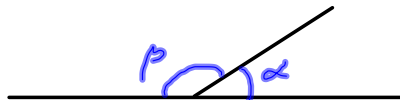


# Kulmat



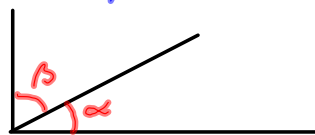
- vieruskulmat

$$\alpha + \beta = 180^\circ$$



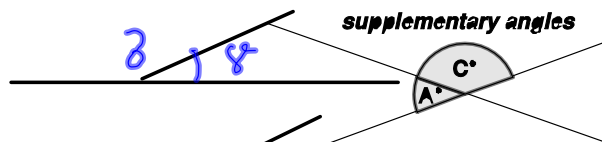
komplementtikulmat

$$\alpha + \beta = 90^\circ$$



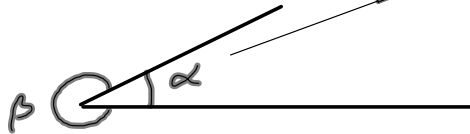
suplementtikulmat

$$\gamma + \delta = 180^\circ$$



eksplementtikulmat

$$\alpha + \beta = 360^\circ$$



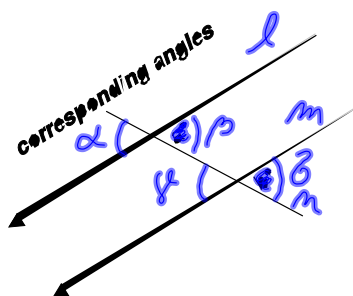
ristikulmat  
 $\alpha = \beta$



samankohtaiset kulmat

$$l \parallel m$$

$$\alpha = \beta = \gamma = \delta$$



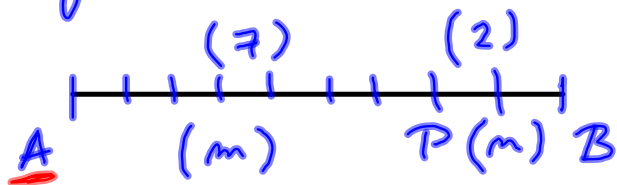
Janan puolittaminen harppikonstruktiolla

The screenshot shows a software interface with a blue header bar. On the left is the logo 'skool.com' with three colored dots (red, green, blue). In the center are three buttons: 'Learn' (yellow), 'Test' (blue), and 'Review' (blue). On the right is the text 'Copyright © 2004 Intel Corporation'. Below the header, the title 'Bisecting Lines' is displayed. The main area features a grid background with the text 'Are you ready to test what you've learned?' in red. Below this, the word 'Test' is written in large, light blue, rounded letters. To the right of 'Test' is a yellow pencil icon. At the bottom, there is a blue control bar with the 'SMART Technologies Inc.' logo on the left, a set of navigation icons (play, stop, back, forward) in the center, and a speaker icon on the right. On the far right of the control bar, it says 'Supporting Education : intel' with the Intel logo.

esim

Piste P jakaa janan AB suhteessa 7:2. Määritä janan AP pituus, kun janan AB pituus on 8.

Ratk. Janan jakosuhte



$$\frac{AP}{PB} = \frac{m}{m}$$

$$\frac{AP}{PB} = \frac{7}{2} \quad | \quad \begin{array}{l} \nearrow \\ \searrow \end{array}$$

$$\vdots$$
$$AP =$$

due sivulle 24 asti.

204, 207, 208, 210, 212, 214,  
215, 219, 224