

Kurver og flader i geometri, arkitektur og design 1. lektion

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Trigonometriske funktioner

Nyttige formler

- Additionsformler
- $\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$
 - $\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$
 - $\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$
 - $\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$

- Dobbelte vinkler
- $\sin 2\theta = 2 \sin \theta \cos \theta$
 - $\cos 2\theta = \cos^2 \theta - \sin^2 \theta = 2 \cos^2 \theta - 1 = 1 - 2 \sin^2 \theta$

- Halve vinkler
- $\cos \theta = \pm \sqrt{\frac{1}{2}(1 + \cos 2\theta)}$
 - $\sin \theta = \pm \sqrt{\frac{1}{2}(1 - \cos 2\theta)}$

- Differentiation
- $f(x) = \sin x \Rightarrow f'(x) = \cos x$
 - $g(x) = \cos x \Rightarrow g'(x) = -\sin x$
 - $h(x) = \tan x \Rightarrow h'(x) = \frac{1}{\cos^2 x} = 1 + \tan^2 x$