

Gonio formules hoofdstuk 12

theorie 12.1 A en 12.1 B

sinus

$$\begin{aligned}\sin(-x) &= -\sin(x) \\ -\sin(x) &= \sin(x + \pi) \\ \sin(x) &= \cos(x - \frac{1}{2}\pi)\end{aligned}$$

cosinus

$$\begin{aligned}\cos(-x) &= \cos(x) \\ -\cos(x) &= \cos(x + \pi) \\ \cos(x) &= \sin(x + \frac{1}{2}\pi)\end{aligned}$$

anders

$$\begin{aligned}\sin^2(x) + \cos^2(x) &= 1 \\ \tan(x) &= \frac{\sin(x)}{\cos(x)}\end{aligned}$$

vergelijkingen sinus

$$\sin(a) = \sin(b)$$

op $[0, 2\pi]$:

$$a = b \text{ of } a = \pi - b$$

op \mathbb{R} : beide $+k2\pi$

vergelijkingen cosinus

$$\cos(a) = \cos(b)$$

op $[0, 2\pi]$:

$$a = b, \text{ of } a = -b$$

op \mathbb{R} : beide $+k2\pi$

verschilformules

$$\begin{aligned}\cos(a - b) &= \cos(a)\cos(b) + \sin(a)\sin(b) \\ \sin(a - b) &= \sin(a)\cos(b) - \cos(a)\sin(b)\end{aligned}$$

somformules

$$\begin{aligned}\cos(a + b) &= \cos(a)\cos(b) - \sin(a)\sin(b) \\ \sin(a + b) &= \sin(a)\cos(b) + \cos(a)\sin(b)\end{aligned}$$

verdubbelingsformules

$$\begin{aligned}\sin(2a) &= 2\sin(a)\cos(a) \\ \cos(2a) &= \cos^2(a) - \sin^2(a) \\ \cos(2a) &= 2\cos^2(a) - 1 \\ \cos(2a) &= 1 - 2\sin^2(a)\end{aligned}$$