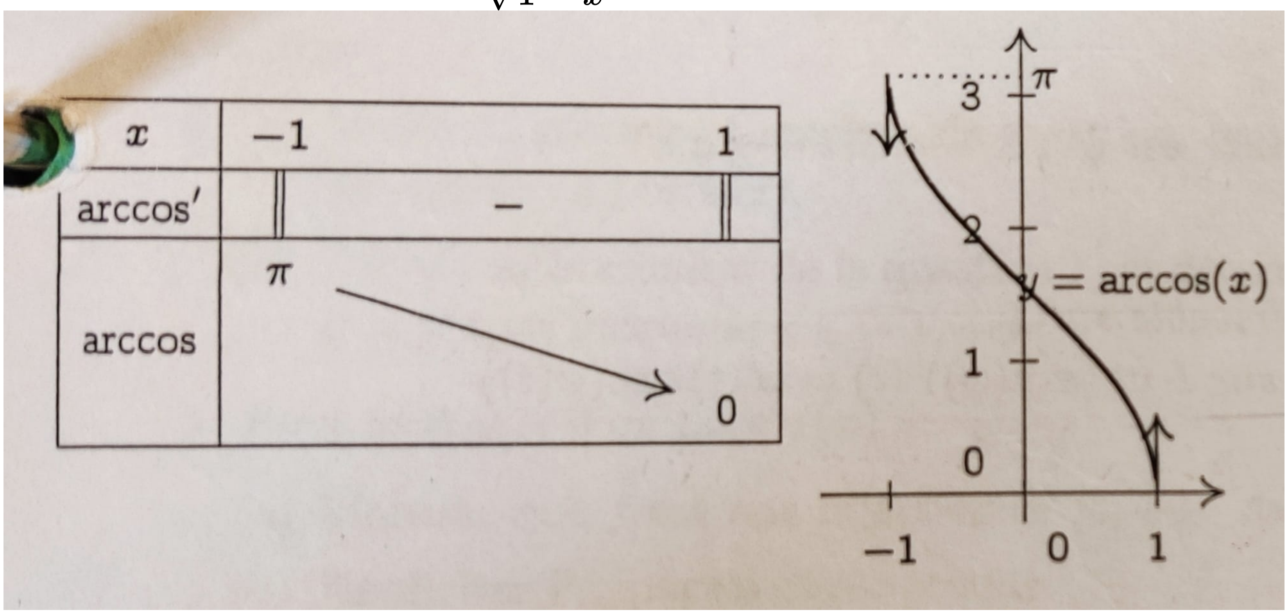
Fonctions circulaires réciproques

#trigonometrie #analyse

Fonction Arccosinus

$\arccos : [-1, 1] \longrightarrow [0, \pi];\ x \longmapsto \arccos(x)$

- $\forall x \in [-1, 1], \forall y \in [0, \pi],\ y = \arccos(x) \Leftrightarrow x = \cos(y)$
- $\forall x \in]-1, 1[,\ \arccos'(x) = -\dfrac{1}{\sqrt{1 - x^2}}$

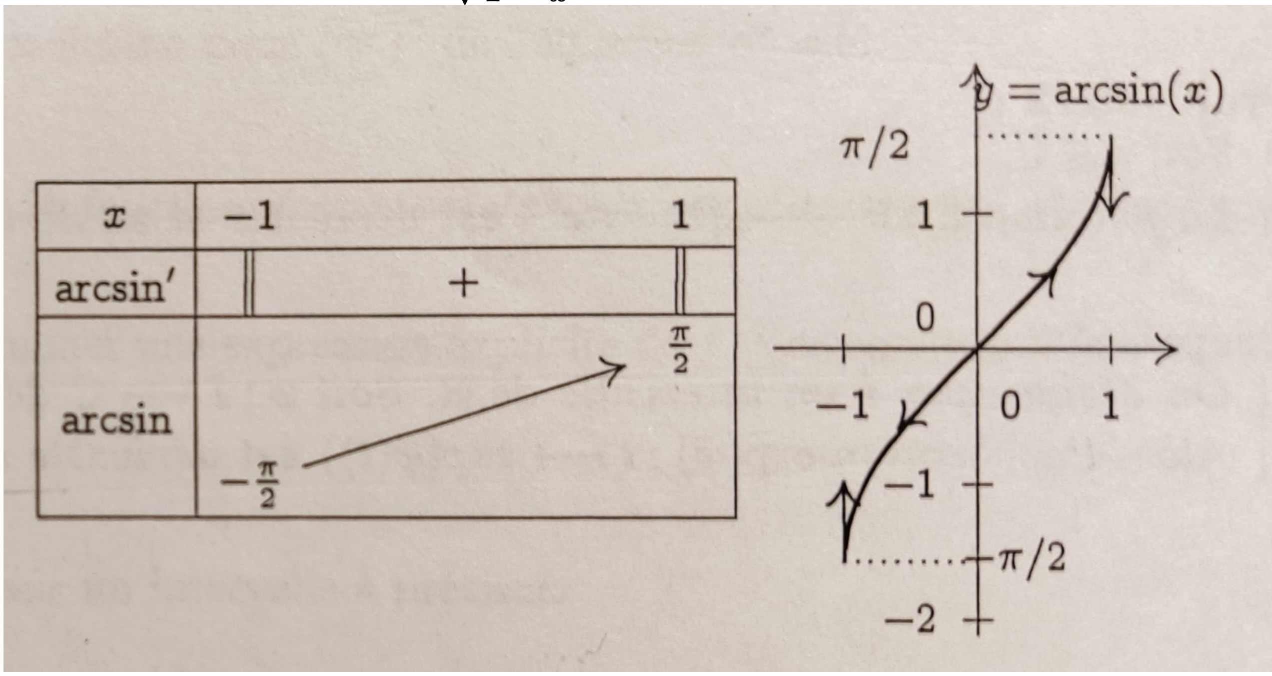


Fonction Arcsinus

$\arcsin : [-1, 1] \longrightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2}\right];\ x \longmapsto \arcsin(x)$

- $\forall x \in [-1, 1], \forall y \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right],\ y = \arcsin(x) \Leftrightarrow x = \sin(y)$

- $\forall x \in]-1,1[,\ \arcsin'(x) = \dfrac{1}{\sqrt{1-x^2}}$



Fonction Arctangente

$\arctan : \mathbb{R} \longrightarrow \left[-\frac{\pi}{2}, \frac{\pi}{2}\right];\ x \longmapsto \arctan(x)$

- $\forall x \in \mathbb{R}, \forall y \in \left[-\frac{\pi}{2}, \frac{\pi}{2}\right],\ y = \arctan(x) \Leftrightarrow x = \tan(y)$
- $\forall x \in \mathbb{R},\ \arctan'(x) = \dfrac{1}{1+x^2}$