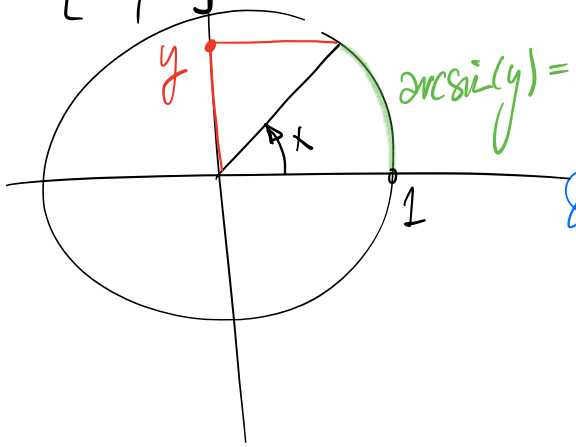
Fonctions trigos réciproks

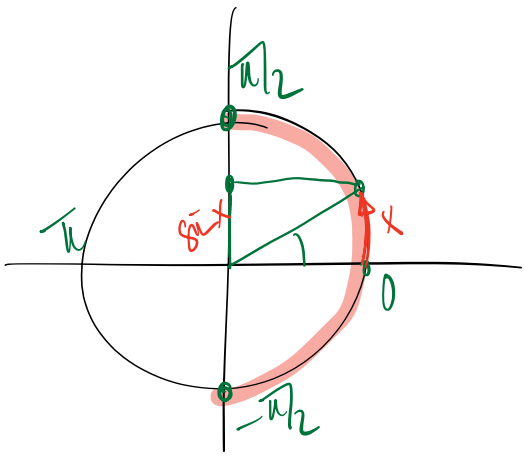
$\sin^{-1}$ ARCSIN

SIN

$\sin : [-\pi/2 ; \pi/2] \longrightarrow [-1;1]$



$\sin^{-1}(x) = \dfrac{1}{\sin(x)}$



$\arcsin : [-1;1] \longrightarrow [-\pi/2 ; \pi/2]$

$$(f(g(x)))' = f'(g(x)) \cdot g'(x)$$

Soit f, g (fg.) $f(g(x)) = x$

$$\Rightarrow f'(g(x)) \cdot g'(x) = 1$$

$$\Rightarrow f'(g(x)) = \frac{1}{g'(x)}$$

$\sqrt{x^2} = x$

$\sin(\arcsin(x)) = x$

$\arcsin(\sin(x)) = x$

$$(\sin(x))' = \cos(x)$$

$f'(g(x)) \cdot g'(x)$

$$(\arcsin(\sin(x)))' = \arcsin'(\sin(x)) \cdot \cos(x) = 1$$

$$(x)'$$

$$\Rightarrow \quad \arcsin'(\sin(x)) = \frac{1}{\cos(x)}$$

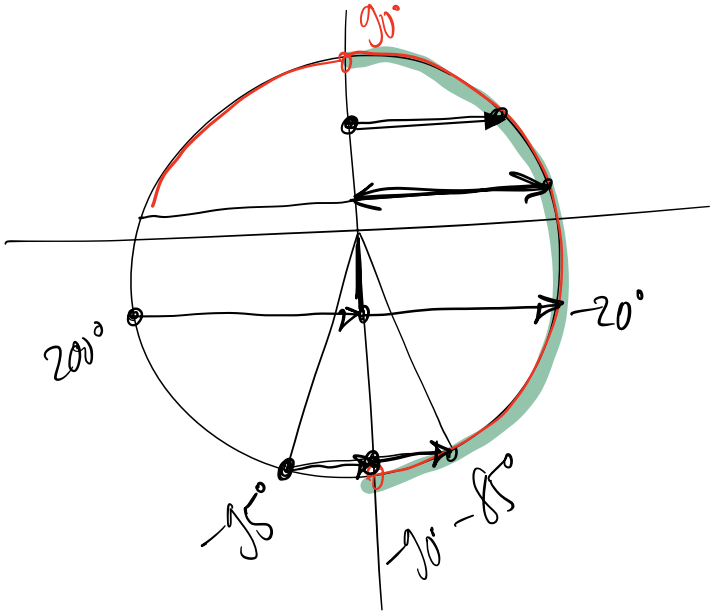
$$\sin^2(x) + \cos^2(x) = 1$$

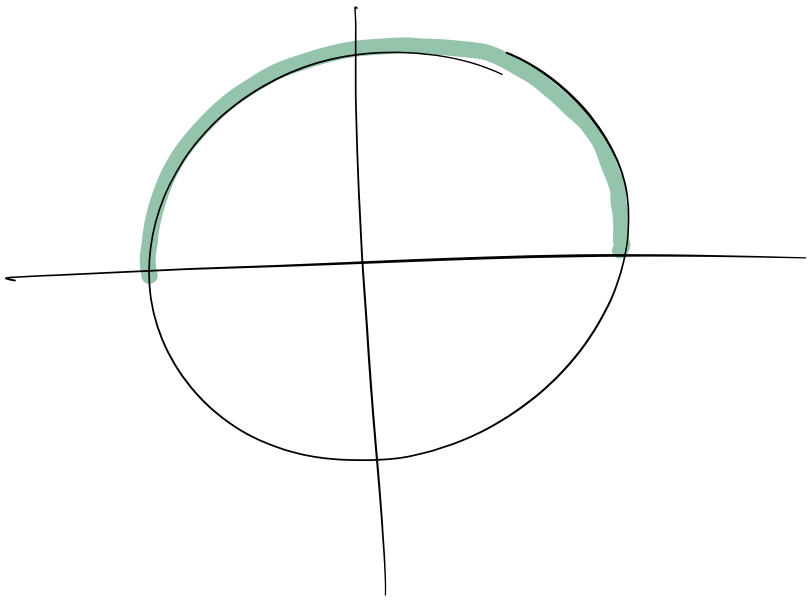
$$\arcsin'(\sin(x)) = \frac{1}{\sqrt{1-\sin^2(x)}}$$

$$\arcsin'(\sin(x)) = \frac{1}{\sqrt{1-(\sin(x))^2}}$$

$$\sin(x) = y$$

$$\arcsin'(y) = \frac{1}{\sqrt{1-y^2}}$$



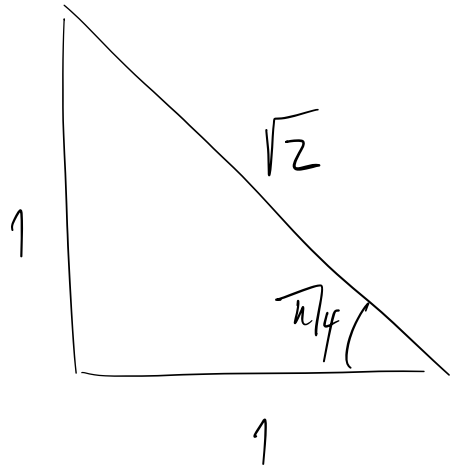
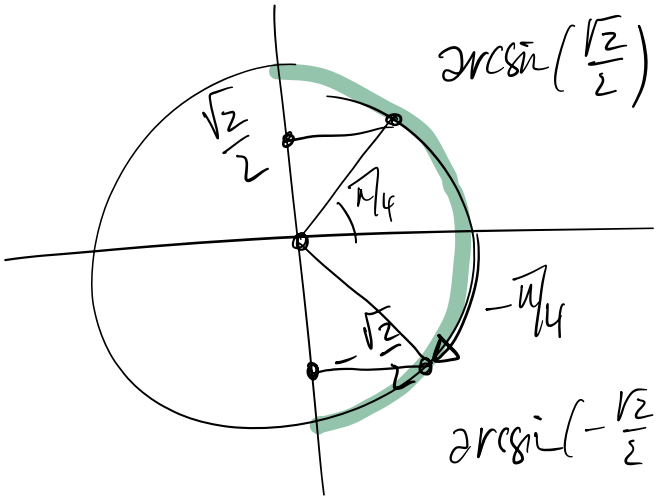


$$\left(\arccos(\cos(x))\right)' = \arccos'(\cos(x)) \cdot (-\sin(x)) = 1$$

$$\arccos'(\cos(x)) = \frac{1}{-\sin(x)}$$

$$= \frac{1}{-\sqrt{1-\cos^2(x)}}$$

$$\Rightarrow \quad \arccos'(y) = \frac{1}{-\sqrt{1-y^2}}$$



$$\operatorname{sen}\frac{\pi}{4} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$