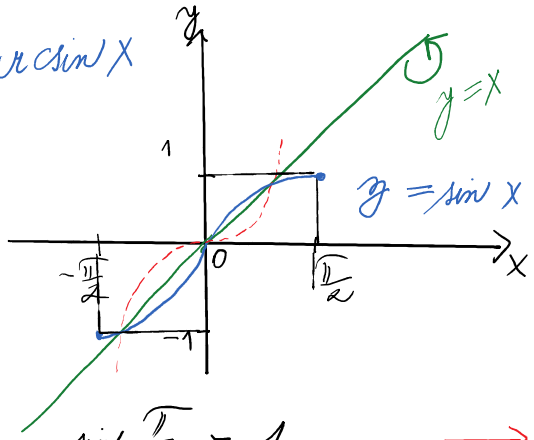
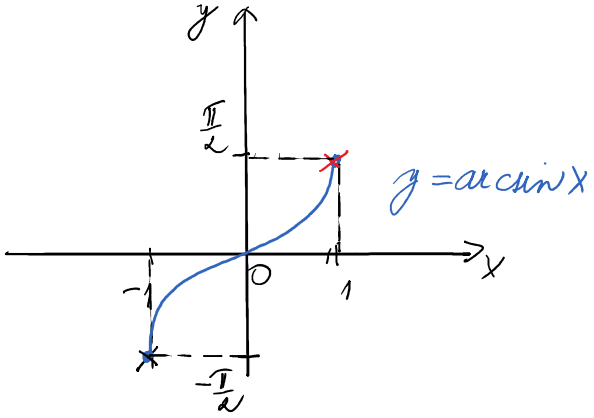
# Inverzná funkcia

streda 22. októbra 2025 7:30

$f: y = \sin x$ $\quad D(f) = \langle -\frac{\pi}{2}, \frac{\pi}{2} \rangle$ rastúca $\Rightarrow \exists$ inverzná funkcia

$f^{-1}: y = \arcsin x$



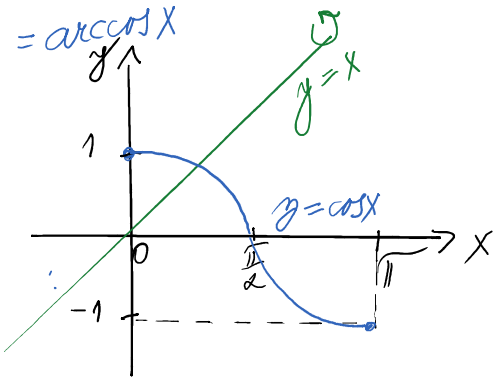

$f: \quad \sin\frac{\pi}{2} = 1 \quad \sin 0 = 0 \quad \sin(-\frac{\pi}{2}) = -1 \quad \longrightarrow \quad f^{-1}: \quad \arcsin 1 = \frac{\pi}{2} \quad \arcsin 0 = 0 \quad \arcsin -1 = -\frac{\pi}{2}$

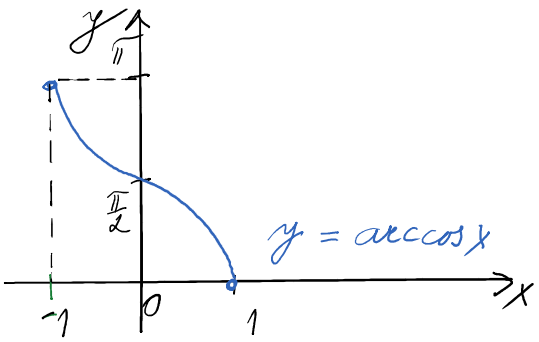
$D(f) = \langle -\frac{\pi}{2}, \frac{\pi}{2} \rangle = H(f^{-1}) = H(\arcsin x)$

$H(f) = \langle -1, 1 \rangle = D(f^{-1}) = H(\arcsin x)$

$f: y = \cos x$ $\quad D(f) = \langle 0, \pi \rangle$ klesajúca $\Rightarrow \exists$ inverzná funkcia

$f^{-1}: y = \arccos x$



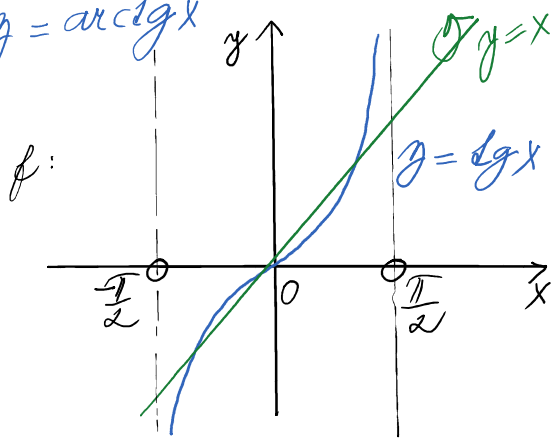

$f: \quad \cos 0 = 1 \quad \cos\frac{\pi}{2} = 0 \quad \cos\pi = -1 \quad \longrightarrow \quad f^{-1}: \quad \arccos 1 = 0 \quad \arccos 0 = \frac{\pi}{2} \quad \arccos(-1) = \pi$

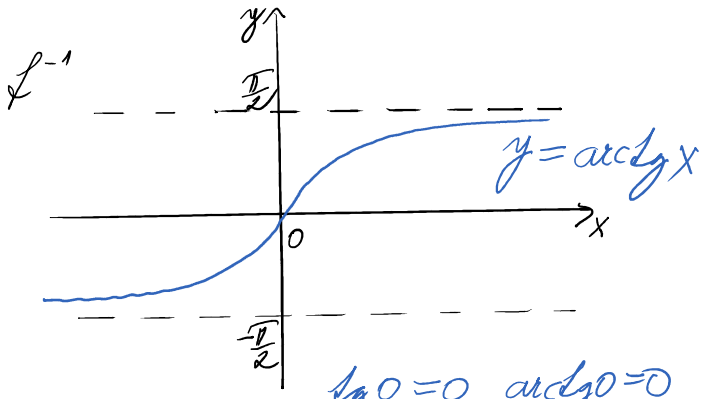
$D(f) = \langle 0, \pi \rangle = H(f^{-1}) = H(\arccos x)$

$H(f) = \langle -1, 1 \rangle = D(f^{-1}) = D(\arccos x)$

$f: y = \operatorname{tg} x \qquad D(f) = (-\frac{\pi}{2}, \frac{\pi}{2})$ rastúca $\Rightarrow$ $\exists$ inverzná funkcia

$f^{-1}: y = \operatorname{arctg} x$




$\operatorname{tg} 0 = 0 \qquad \operatorname{arctg} 0 = 0$

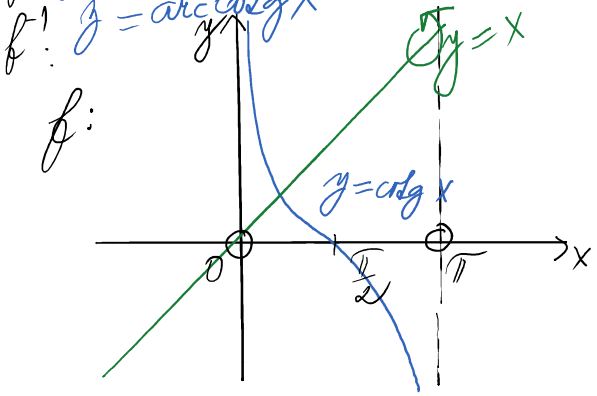
$D(f) = (-\frac{\pi}{2}, \frac{\pi}{2}) = H(f^{-1}) = H(\operatorname{arctg} x)$

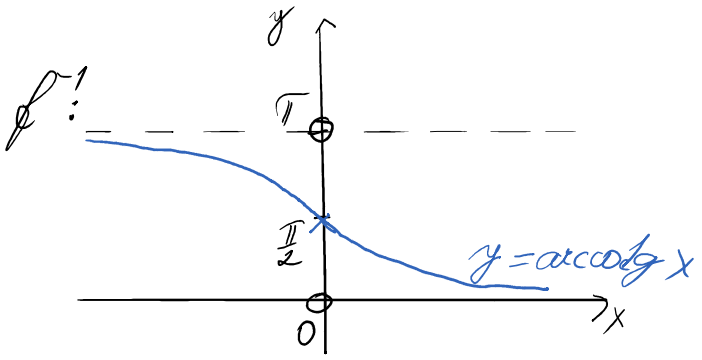
$H(f) = \mathbb{R} = D(f^{-1}) = D(\operatorname{arctg} x)$

klesajúca $\Rightarrow$ $\exists$ inverzná funkcia

$f: y = \operatorname{cotg} x \qquad D(f) = (0, \pi)$

$f^{-1}: y = \operatorname{arccotg} x$




$\operatorname{cotg} \frac{\pi}{2} = 0 \rightarrow \operatorname{arccotg} 0 = \frac{\pi}{2}$

$D(f) = (0, \pi) = H(f^{-1}) = H(\operatorname{arccotg} x)$

$H(f) = \mathbb{R} = D(f^{-1}) = D(\operatorname{arccotg} x)$