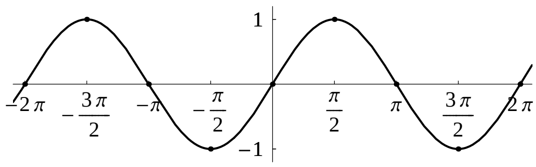
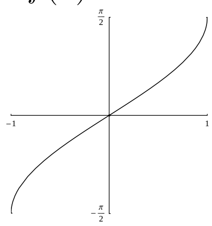
Trigonometrijske funkcije

- $f(x) = \sin x$



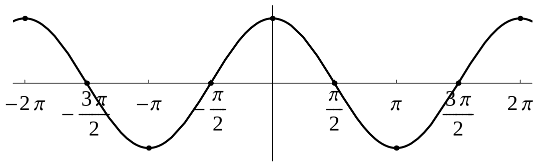
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = [-1, 1]$

- $f(x) = \arcsin x$



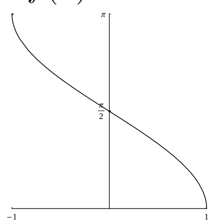
$\mathcal{D}_f = [-1, 1]$
$\mathcal{R}_f = [-\frac{\pi}{2}, \frac{\pi}{2}]$

- $f(x) = \cos x$



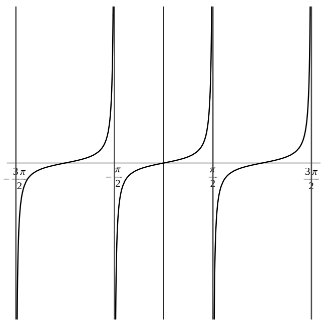
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = [-1, 1]$

- $f(x) = \arccos x$



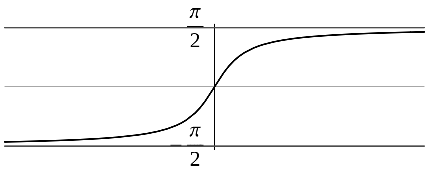
$\mathcal{D}_f = [-1, 1]$
$\mathcal{R}_f = [0, \pi]$

- $f(x) = \operatorname{tg} x$



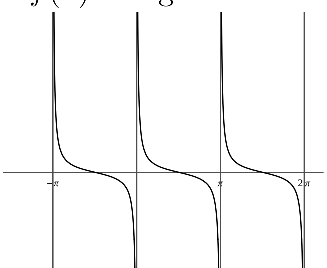
$\mathcal{D}_f = \mathbb{R} \setminus \{\frac{\pi}{2} + k\pi \colon k \in \mathbb{Z}\}$
$\mathcal{R}_f = \mathbb{R}$

- $f(x) = \operatorname{arctg} x$



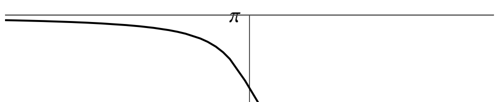
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = \langle -\frac{\pi}{2}, \frac{\pi}{2} \rangle$

- $f(x) = \operatorname{ctg} x$



$\mathcal{D}_f = \mathbb{R} \setminus \{k\pi \colon k \in \mathbb{Z}\}$
$\mathcal{R}_f = \mathbb{R}$

- $f(x) = \operatorname{arcctg} x$



$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = \langle -0, \pi \rangle$

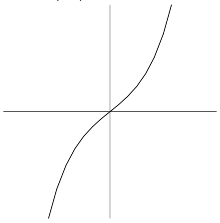
$\sin(x \pm y) = \sin x \cos y \pm \cos x \sin y$
$\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y$
$\sin x \pm \sin y = 2 \sin \frac{x \pm y}{2} \cos \frac{x \mp y}{2}$
$\cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2}$
$\cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$

$\operatorname{tg}(x \pm y) = \frac{\operatorname{tg} x \pm \operatorname{tg} y}{1 \mp \operatorname{tg} x \operatorname{tg} y}$
$\operatorname{ctg}(x \pm y) = \frac{\operatorname{ctg} x \operatorname{ctg} y \mp 1}{\operatorname{ctg} y \pm \operatorname{ctg} x}$
$\sin x \sin x = \frac{\cos(x-y) - \cos(x+y)}{2}$
$\sin x \cos x = \frac{\sin(x+y) + \sin(x-y)}{2}$
$\cos x \cos x = \frac{\cos(x-y) + \cos(x+y)}{2}$

$\sin 2x = 2 \sin x \cos x$
$\cos 2x = \cos^2 x - \sin^2 x$
$\sin^2 x + \cos^2 x = 1$

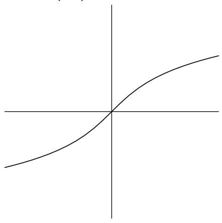
Hiperbolne funkcije

- $f(x) = \operatorname{sh} x$



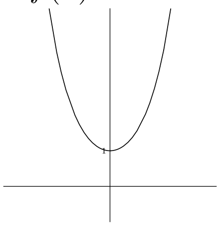
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = \mathbb{R}$

- $f(x) = \operatorname{Arsh} x$



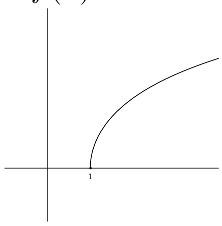
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = \mathbb{R}\rangle$

- $f(x) = \operatorname{ch} x$



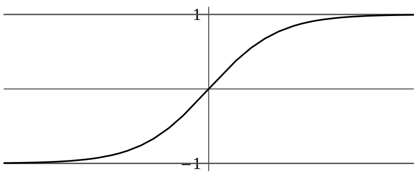
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = [1, +\infty\rangle$

- $f(x) = \operatorname{Arch} x$



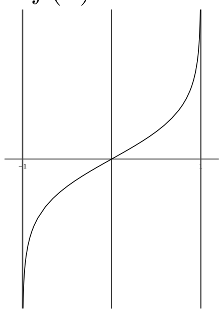
$\mathcal{D}_f = [1, +\infty\rangle$
$\mathcal{R}_f = [0, +\infty\rangle$

- $f(x) = \operatorname{th} x$



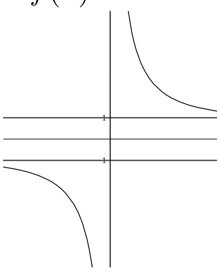
$\mathcal{D}_f = \mathbb{R}$
$\mathcal{R}_f = \langle -1, 1\rangle$

- $f(x) = \operatorname{Arth} x$



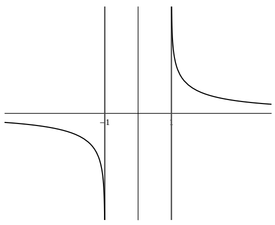
$\mathcal{D}_f = \langle -1, 1\rangle$
$\mathcal{R}_f = \mathbb{R}$

- $f(x) = \operatorname{cth} x$



$\mathcal{D}_f = \mathbb{R} \setminus \{0\}$
$\mathcal{R}_f = \langle -\infty, -1\rangle \cup \langle 1, +\infty\rangle$

- $f(x) = \operatorname{Arcth} x$



$\mathcal{D}_f = \langle -\infty, -1\rangle \cup \langle 1, +\infty\rangle$
$\mathcal{R}_f = \mathbb{R} \setminus \{0\}$

$\operatorname{sh}(x \pm y) = \operatorname{sh} x \operatorname{ch} y \pm \operatorname{ch} x \operatorname{sh} y$
$\operatorname{ch}(x \pm y) = \operatorname{ch} x \operatorname{ch} y \pm \operatorname{sh} x \operatorname{sh} y$

$\operatorname{th}(x \pm y) = \frac{\operatorname{th} x \pm \operatorname{th} y}{1 \pm \operatorname{th} x \operatorname{th} y}$
$\operatorname{cth}(x \pm y) = \frac{\operatorname{cth} x \operatorname{cth} y \pm 1}{\operatorname{cth} y \pm \operatorname{cth} x}$

$\operatorname{sh} 2x = 2 \operatorname{sh} x \operatorname{ch} x$
$\operatorname{ch} 2x = \operatorname{ch}^2 x + \operatorname{sh}^2 x$
$\operatorname{ch}^2 x - \operatorname{sh}^2 x = 1$