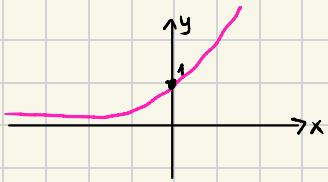
1. Eksponencijalna funkcija

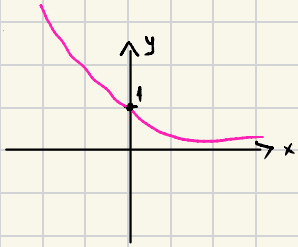
1.1. $f(x) = e^x$

- $x \in \mathbb{R}$
- $y \in (0, +\infty)$



1.2. $f(x) = e^{-x}$

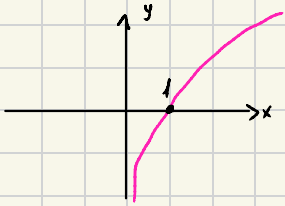
- $x \in \mathbb{R}$
- $y \in (0, +\infty)$



2. Logoritamska funkcija

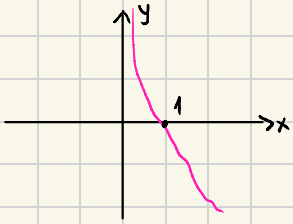
2.1. $f(x) = \ln x$

- $x > 0$
- $y \in \mathbb{R}$



2.2. $f(x) = -\ln x$

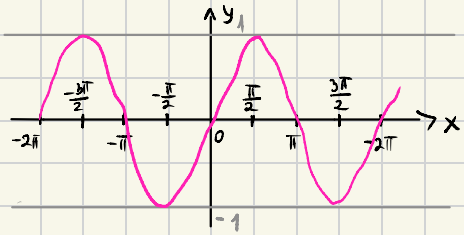
- $x > 0$
- $y \in \mathbb{R}$



3. Trigonometrijske funkcije

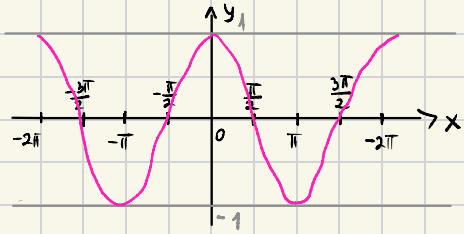
3.1. $f(x) = \sin x$

- $x \in \mathbb{R}$
- $y \in [-1, 1]$



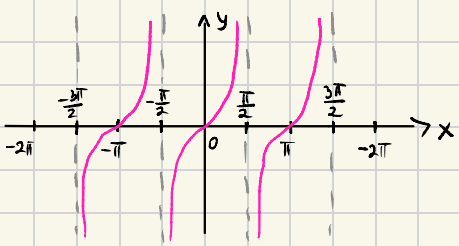
3.2. $f(x) = \cos x$

- $x \in \mathbb{R}$
- $y \in [-1, 1]$



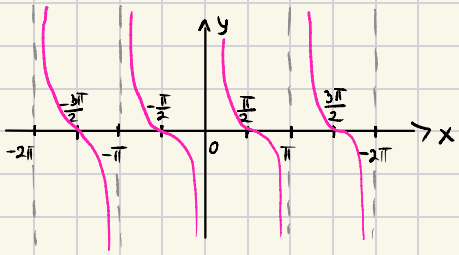
3.3. $f(x) = tgx = \frac{\sin x}{\cos x}$

- $x \neq \frac{\pi}{2} + k\pi$
- $y \in \mathbb{R}$



3.4. $f(x) = \cos x = \frac{\cos x}{\sin x}$

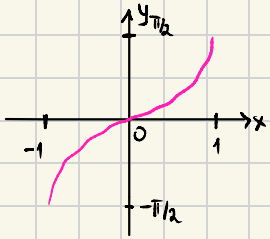
- $x \neq k\pi$
- $y \in \mathbb{R}$



4. Inverzne trigonometrijske funkcije

4.1. $f(x) = \arcsin x$

- $x \in [-1, 1]$
- $y \in [-\pi/2, \pi/2]$

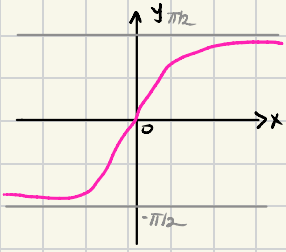


4.2. $f(x) = \arccos x$

- $x \in [-1, 1]$
- $y \in [0, \pi]$

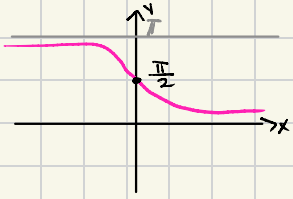
4.3. $f(x) = \operatorname{arctg} x$

- $x \in \mathbb{R}$
- $y \in (-\pi/2, \pi/2)$



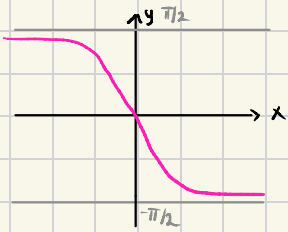
4.4. $f(x) = \operatorname{arcctg} x$

- $x \in \mathbb{R}$
- $y \in (0, \pi)$



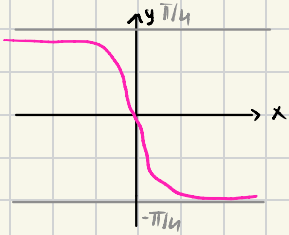
•• $f(x) = -\frac{arctgx}{2} + \frac{\pi}{2}$

• $f(x) = -arctgx$



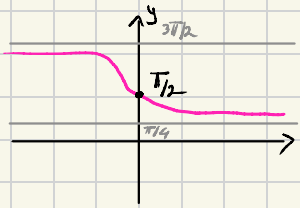
• $f(x) = -\frac{arctgx}{2}$

$\frac{\pi}{2} = \frac{\pi}{4}$



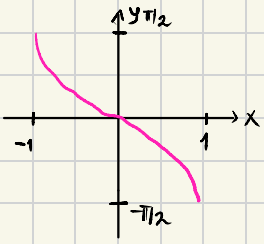
• $f(x) = -\frac{arctg\,x}{2} + \frac{\pi}{2}$

$\frac{\pi}{4} + \frac{\pi}{2} = \frac{3\pi}{4} \quad \wedge \quad -\frac{\pi}{4} + \frac{\pi}{2} = \frac{\pi}{2}$



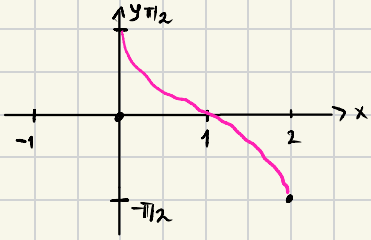
•• $f(x) = arcsin(1-x)$

• $f(x) = arcsin(-x)$



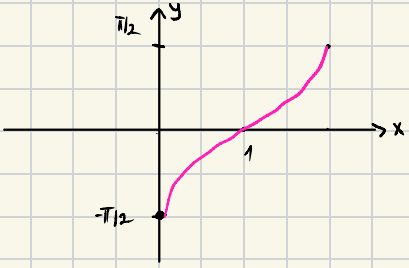
• $f(x) = arcsin(1-x) = arcsin(-(1-x)) = -arcsin(x-1)$

$0 \to \frac{\pi}{2}, \quad 1 \to 0, \quad 2 \to -\frac{\pi}{2}$



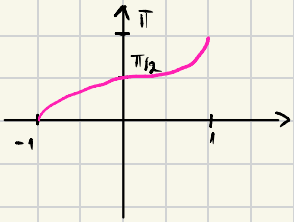
• $f(x) = arcsin(x-1)$

$0 \to -\frac{\pi}{2}, \quad 1 \to 0, \quad 2 \to \frac{\pi}{2}$



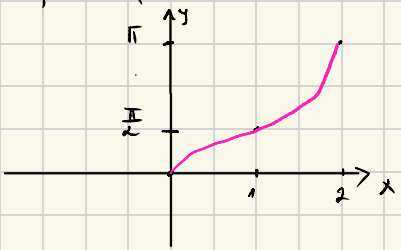
$f(x) = \arccos(1-x)$

- $f(x) = \arccos(-x)$



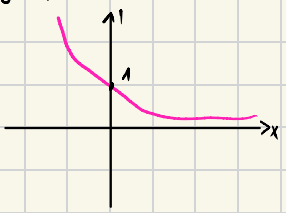
- $f(x) = \arccos(1-x) = \arccos(-(x-1))$

$0 \to 0$, $1 \to \frac{\pi}{2}$, $2 \to \pi$

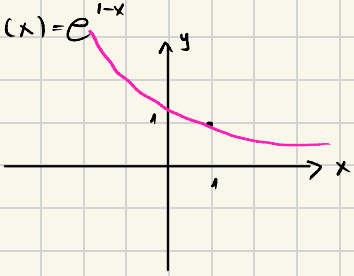


$f(x) = e^{1-x}$

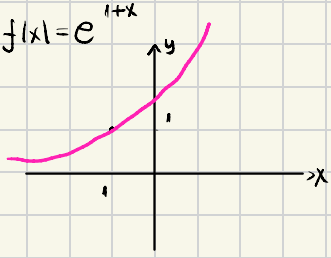
- $f(x) = e^{-x}$

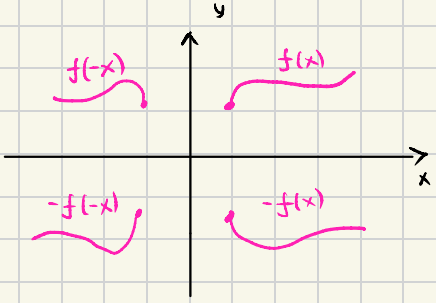


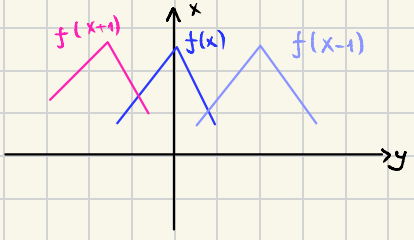
- $f(x) = e^{1-x}$

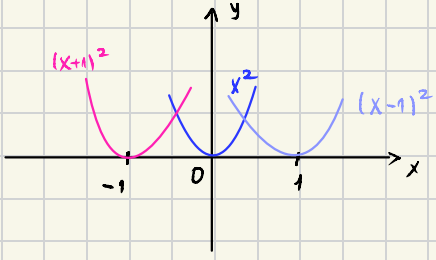


- $f(x) = e^{1+x}$









• $f(x) = \frac{1-e^{-x}}{2}$

$f^{-1}(x) = ?$

$y = \frac{1-e^{-x}}{2} \Rightarrow x = \frac{1-e^{-y}}{2} \,/\cdot 2 \Rightarrow 2x = 1-e^{-y}$

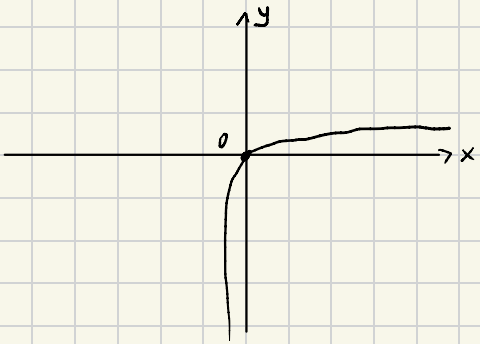
$e^{-y} = 1-2x \,/\ln$

$-y = \ln(1-2x)$

$y = -\ln(1-2x)$

$f^{-1}(x) = -\ln(1-2x)$

• Grafik fje: $f(x) = \frac{1-e^{-x}}{2}$

$x \in \mathbb{R}$, $f(x) < 0$

$x = 0 \; f(x) = 0$