6.6. DERIVACIJE ELEMENTARNIH FIJA

Izveli smo:

$(c)' = 0$ $\quad (\ln x)' = \frac{1}{x}$ $\quad (\sin x)' = \cos x$

$(e^x)' = e^x$ $\quad (\sqrt{x})' = \frac{1}{2\sqrt{x}}$ $\quad (x^n)' = n \cdot x^{n-1}$

Trigonometrijske i arkus fije

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

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

$(\cos x)' = \lim_{h \to 0} \frac{\cos(x+h) - \cos x}{h} = \ldots = -\sin x$

(3) $(\operatorname{tg} x)' = \frac{1}{\cos^2 x}$

$(\operatorname{tg} x)' = \left(\frac{\sin x}{\cos x}\right)' = \frac{(\sin x)' \cos x - (\cos x)' \sin x}{\cos^2 x} = \frac{1}{\cos^2 x}$

(4) $(\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$ $\quad (D^2)$

(5) $(\arcsin x)' = \frac{1}{\sqrt{1-x^2}}$, $|x| < 1$

(6) $(\arccos x)' = -\frac{1}{\sqrt{1-x^2}}$

Izvod: $y = \arccos x \Rightarrow x = \cos y$

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