

Formule za prvi kolokvij iz Matematike 1

REŠITVI KVADRATNE ENAČBE

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad \dots \text{rešitvi enačbe } ax^2 + bx + c = 0$$

ABSOLUTNA VREDNOST

$$|x| = \begin{cases} -x & , x < 0, \\ x & , x \geq 0. \end{cases}$$

LIMITE

$$\lim_{n \rightarrow \infty} \left(1 + \frac{a}{n}\right)^n = e^a \quad \text{za } a \in \mathbb{R},$$
$$\lim_{x \rightarrow 0} \frac{\sin ax}{ax} = 1 \quad \text{za } a \neq 0,$$

TABELA ODVODOV

Funkcija	Odvod
$f(x) = x^n$	$f'(x) = nx^{n-1}$
$f(x) = \cos x$	$f'(x) = -\sin x$
$f(x) = \sin x$	$f'(x) = \cos x$
$f(x) = \operatorname{tg} x$	$f'(x) = \frac{1}{(\cos x)^2}$
$f(x) = \operatorname{ctg} x$	$f'(x) = -\frac{1}{(\sin x)^2}$
$f(x) = e^x$	$f'(x) = e^x$
$f(x) = \ln x$	$f'(x) = \frac{1}{x}$
$f(x) = \arcsin x$	$f'(x) = \frac{1}{\sqrt{1-x^2}}$
$f(x) = \operatorname{arctg} x$	$f'(x) = \frac{1}{1+x^2}$