Koreni in potence

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Gimnazija Vič, 2008/09
http://rok-kralj.net/si/datoteke/

1. Definicija potence s celim eksponentom

$\underbrace{a \cdot a \cdot a \cdot a \cdot a \cdot \ldots a}_{n \text{ faktorjev}} = a^n \; ; a \in \mathbb{R} \; ; n \in \mathbb{N}$

$a^0 = 1 \; ; a \neq 0$

$a^{-n} = \frac{1}{a^n} \; ; a \in \mathbb{R} \; ; a \neq 0 \; ; n \in \mathbb{N}$

2. Definicija korena

$x = \sqrt[n]{a} \Leftrightarrow x^n = a \; ; a \in \mathbb{R} \; ; a > 0 \; ; n \in \mathbb{N}$

3. Definicija potence

$a^{\frac{m}{n}} = \sqrt[n]{a^m} \; ; a > 0 \; ; m, n \in \mathbb{Z} \; ; n \neq 0$

4. Računanje s potencami

$a^m \cdot a^n = a^{m+n}$

$(a^n)^m = a^{n \cdot m}$

$a^n : a^m = a^{n-m}$

$(a \cdot b)^n = a^n \cdot b^n$

$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$

5. Računanje s koreni

$\sqrt[n]{a} \cdot \sqrt[n]{b} = \sqrt[n]{a \cdot b}$

$\frac{\sqrt[n]{a}}{\sqrt[n]{b}} = \sqrt[n]{\frac{a}{b}}$

$(\sqrt[n]{a})^m = \sqrt[n]{a^m}$

$\sqrt[n]{\sqrt[m]{a}} = \sqrt[nm]{a}$

$\sqrt[n]{a^m} = \sqrt[nr]{a^{mr}}$

$\left(\sqrt[b]{(\sqrt[d]{x})^c}\right)^a = x^{\frac{a \cdot c}{b \cdot d}}$!