Ridicarea la putere a rapoartelor de numere reale

Reamintim:

$$\boxed{\begin{array}{l}(\sqrt{a})^n=\sqrt{a^n}\\ (a\sqrt{b})^n=a^n\sqrt{b^n}\end{array}}\quad (a,\ b\in\mathbb{R}^*,\ b>0,\ n\in\mathbb{N}^*)$$

Reguli de calcul cu puteri

$$a^m\cdot a^n=a^{m+n}\quad (a\in\mathbb{R}^*,\ m,\ n\in\mathbb{N})$$

$$a^m:a^n=a^{m-n}\quad (a\in\mathbb{R}^*,\ m,\ n\in\mathbb{N},\ m\ge n)$$

$$(a^m)^n=a^{m\cdot n}\quad (a\in\mathbb{R}^*,\ m,\ n\in\mathbb{N})$$

$$a^m\cdot b^m=(a\cdot b)^m\quad (a,b\in\mathbb{R}^*,\ m\in\mathbb{N})$$

$$a^m:b^m=(a:b)^m\quad (a,b\in\mathbb{R}^*,\ m\in\mathbb{N})$$

$$(-a)^n=\begin{cases}a^n,\ n-par\\ -a^n,\ n-impar\end{cases}\quad a\in\mathbb{R}^*,\ n\in\mathbb{N}$$

$$a^0=1\quad (a\in\mathbb{R}^*)$$

$$a^1=a\quad (a\in\mathbb{R}^*)$$

Dacă exponentul este negativ, atunci vom aplica următoarea formulă:

$$\boxed{a^{-n}=\frac{1}{a^n}}\quad (a\in\mathbb{R}^*,\ n\in\mathbb{N})$$

În particular, dacă *n = 1*, avem:

$$\boxed{a^{-1}=\frac{1}{a}}\quad (a\in\mathbb{R}^*,\ n\in\mathbb{N}).$$

Exemple:

$$\left(\frac{\sqrt{3}}{2}\right)^{-4} = \left(\frac{2}{\sqrt{3}}\right)^{4} = \frac{16}{9}$$

$$\left(\frac{2\sqrt{5}}{3}\right)^{-1} = \frac{3}{2\sqrt{5}}.$$