

DEFINIZIONE E PROPRIETA' DELLE POTENZE

Def. Potenza:

$$a^n = a \cdot a \cdot \dots \cdot a \text{ (n volte)} \quad \forall a \in \mathbb{Q}, \forall n \in \mathbb{N} \wedge n \geq 2$$

Convenzioni:

$$a^1 = a \quad \forall a \in \mathbb{Q}$$

$$a^0 = 1 \quad \forall a \in \mathbb{Q}_0$$

$$a^{-n} = \frac{1}{a^n} \quad \forall a \in \mathbb{Q}_0, \forall n \in \mathbb{N} \wedge n \geq 1$$

Proprietà:

$$a^n \cdot a^m = a^{n+m} \quad \forall a \in \mathbb{Q}$$

$$a^n : a^m = \frac{a^n}{a^m} = a^{n-m} \quad \forall a \in \mathbb{Q}_0$$

$$a^n \cdot b^n = (a \cdot b)^n \quad \forall a \in \mathbb{Q}$$

$$a^n : b^n = \frac{a^n}{b^n} = \left(\frac{a}{b} \right)^n \quad \forall b \in \mathbb{Q}_0$$

$$(a^n)^m = a^{n \cdot m} \quad \forall a \in \mathbb{Q}$$