

# GLI ESPONENZIALI

$$a^h \quad a > 0 \quad h \in \mathbb{R}$$

$$\text{se } a=1 \quad 1^h=1 \quad \forall h$$

$$\text{se } h=0 \quad a^0=1 \quad \forall a \in \mathbb{R}^+$$

$$\text{se } a=0 \quad 0^h=0 \quad \forall h \neq 0$$

$$a^{-h} = \frac{1}{a^h} \qquad (a^h)^k = a^{h \cdot k}$$

$$a^h \cdot a^k = a^{h+k} \qquad a^r \cdot b^r = (a \cdot b)^r$$

$$\frac{a^h}{a^k} = a^{h-k} \qquad \frac{a^r}{b^r} = \left(\frac{a}{b}\right)^r$$

# I LOGARITMI

$$\text{se } \log_a b = c \Rightarrow a^c = b$$

$$\log_a a = 1$$

$$\log_e b = \ln b$$

$$\log_{10} b = \log b$$

$$\log_a (b \cdot c) = \log_a b + \log_a c \qquad \log 1 = 0$$

$$\log_a \left(\frac{b}{c}\right) = \log_a b - \log_a c \qquad \log 0 = \text{impossibile}$$

$$\log_a b^c = c \log_a b$$

$$\log_b N = \frac{\log_a N}{\log_a b}$$