

# K.I.M. - ESPONENZIALI E LOGARITMI (1)

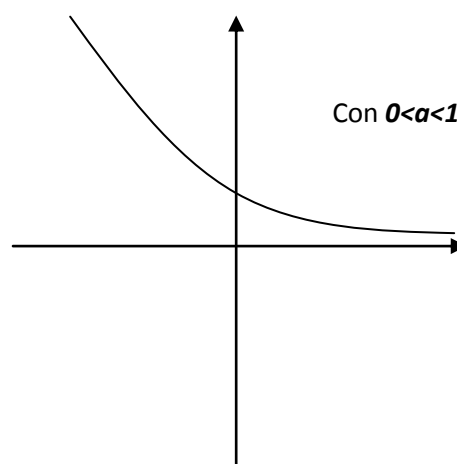
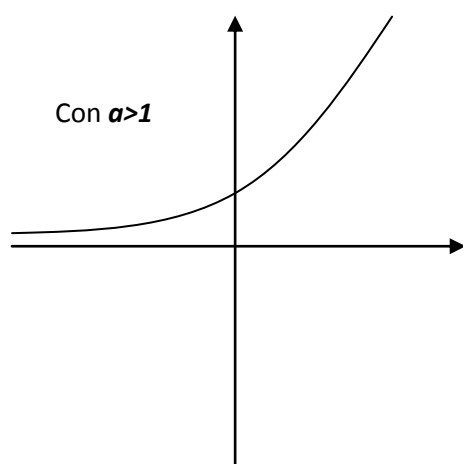
A cura di Padovan Claudio (v 2.00)

## ESPONENZIALI

$$y = a^x$$

BASE                      ESPONENTE

$$y = a^x \text{ con } a > 0 \text{ e } a \neq 1$$



### Proprietà degli esponenziali:

$$\begin{aligned} a^p \cdot a^q &= a^{p+q} & a^{\frac{1}{p}} &= \sqrt[p]{a} \\ a^p \div a^q &= a^{p-q} & a^{\frac{p}{q}} &= \sqrt[q]{a^p} \\ (a^p)^q &= a^{p \cdot q} & a^{-\frac{p}{q}} &= \frac{1}{\sqrt[q]{a^p}} \\ a^{-p} &= \frac{1}{a^p} \end{aligned}$$

### Proprietà delle disequazioni esponenziali:

$$a^p \geq a^q \begin{cases} p \geq q \text{ se } a > 1 \\ p \leq q \text{ se } 0 < a < 1 \end{cases}$$

### Appendice – Il numero di Nepero e:

$$e = 2,71828\dots$$

# K.I.M. - ESPONENZIALI E LOGARITMI (2)

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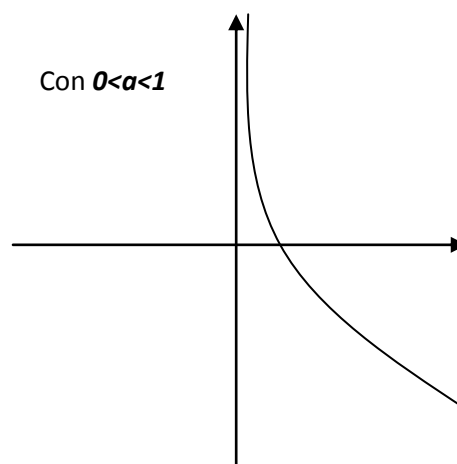
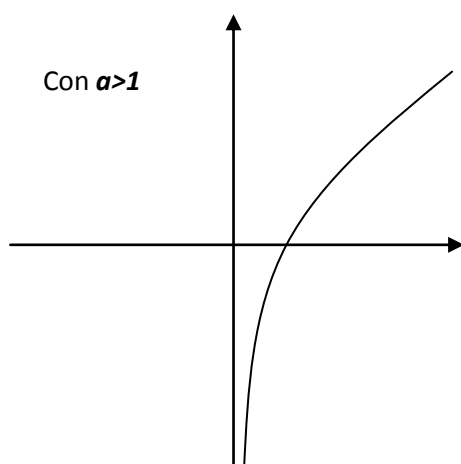
## LOGARITMI

$$y = \log_a x$$

BASE

ARGOMENTO

$$y = \log_a x \text{ con } a > 0 \text{ e } a \neq 1 \text{ e } x > 0$$



### Proprietà dei logaritmi:

$$\log_a b + \log_a c = \log_a (b \cdot c)$$

$$\log_a b - \log_a c = \log_a \frac{b}{c}$$

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

### Proprietà delle disequazioni logaritmiche:

$$\log_a b \geq \log_a c \begin{cases} b \geq c \text{ se } a > 1 \\ b \leq c \text{ se } 0 < a < 1 \end{cases}$$

### Cambio di base:

$$\log_a b = \frac{\log_c b}{\log_c a}$$