ANALISI I → "di questo corso"

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↓
iscrizione mailing list corso

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LIBRO

- Acerbi - Buttazzo
- Fusco - Modica
- Ghisi - Gobbino ← Schede di Analisi Matematica

Esercizi A.M

Ricevimento
Mercoledì 16.30 - 17.30 Martedì 14-15.30 (Nc Alberti)
Giovedì 12:30 - 13:30
Sabato 12:30 - 13:30
(Venerdì 15:30 - 16:30)

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RIPASSA PROPRIETÀ dei LOGARITMI

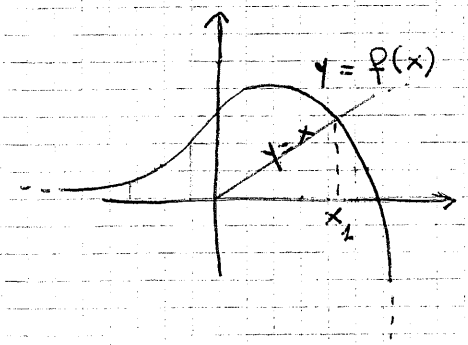
COMPITINO
argomenti fino a derivate, studi di funzione, limiti
ULTIMA SETTIMANA di NOVEMBRE (sabato pomeriggio)

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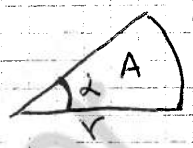
Esercizi

$\log\left(\sqrt[4]{\frac{a^6}{b^3}}\right) = \log\sqrt[4]{\left(\frac{a^3}{b^3}\right)^2}$ [illegible] $=$ [illegible]

$\frac{1}{4}\log\sqrt{\left(\frac{a^2}{b}\right)^3} = \frac{3}{4}\log\frac{a^2}{b} = \frac{3}{4}\log a^2 - \frac{3}{4}\log b$



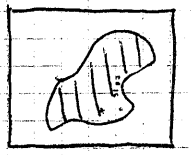
$f(x) \geq x \rightarrow x \leq x_1$



$2\pi : 360 = x : \pi r^2$

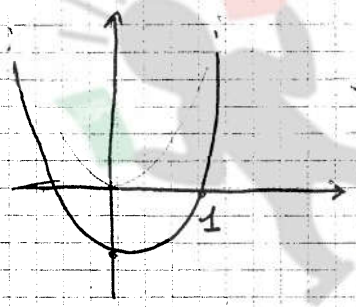
$x = \frac{\pi r^2 \alpha}{360}$

$A = \frac{\pi r^2 \alpha}{\pi 2}$



→ ingrandisce 200 x.
AREA QUADRUPLICA

La misura in radianti di α è la lunghezza dell'ARCO



$y = ?$ $y = x^2 - 1$

$(\sin x)^2 - \frac{1}{4} \geq 0$ $\sin^2 x \geq \frac{1}{4}$

$\sin x \geq +\frac{1}{2}$ $x \leq -\frac{1}{2}$

$\frac{5\pi}{6} \leq x \leq \frac{\pi}{6}$

$\frac{7\pi}{6} \leq x \leq \frac{11\pi}{6}$

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RIPASSO

$\sqrt[n]{x}$ radice positiva $x \geq 0$ n pari

$\sqrt{-1}$ non definita

$\sqrt[3]{8} = 2$ $\sqrt[3]{-8} = -2$

$a^b :=$ se b intero positivo a qualunque n. reale a moltiplicato per se stesso b volte

$a^{-b} := \frac{1}{a^b}$ $a \neq 0$ $b \geq 0$

$a^0 := 1$ $a \neq 0$ (0^0 non si definisce)

$0^b = 0$ $\forall b$ intero positivo

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

$a^b := \sqrt[q]{a^p}$ se $b = \frac{p}{q}$ p, q interi ($q > 0$)

$a > 0$ ma non definito per $a < 0$

$(-8)^{\frac{1}{3}} = \sqrt[3]{-8} = -2$ $(-8)^{\frac{2}{6}} = \sqrt[6]{64} = 2$

(e se $b < 0$ si esclude anche 0)

$a^b :=$ se b non fosse n. razionale

$2^{\pi} =$ $\pi = 3,14\,1592$ $2^3 \cdot 2^{3,1} \; 2^{3,14} \; 2^{3,141} \ldots$

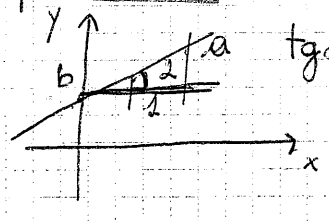
a^b è definito per ogni $a \geq 0$ e b reale

(se $b < 0$ si esclude $a = 0$)

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Grafici

$y = ax + b$



$tg\alpha = a$

$y = x^a$ $\forall x$ $a > 0$ pari / int.

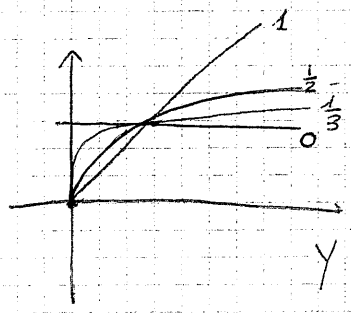
$\forall x \neq 0$ $a < 0$ intero

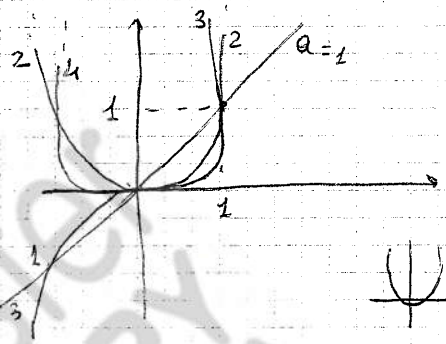
$\forall x \geq 0$ $a > 0$ non int

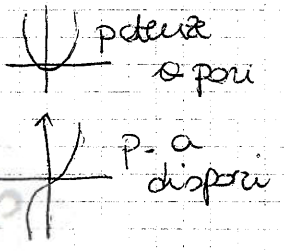
$\forall x > 0$ $a < 0$ non int

$y = x^{\frac{1}{2}} = \sqrt{x}$

$0 \leq a \leq 1$



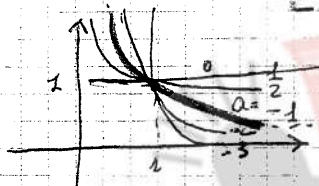




$y = x^{-1} = \frac{1}{x}$

a non intero non si disegue $\forall x < 0$

$a < 0$



$a = 0 \rightarrow y = 1$

a = pari neg funz. simmetrica asse y

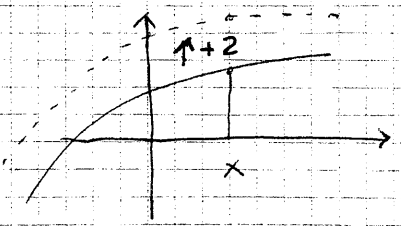
a = dispari neg simmetrico origine

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OPERAZIONI SUI GRAFICI

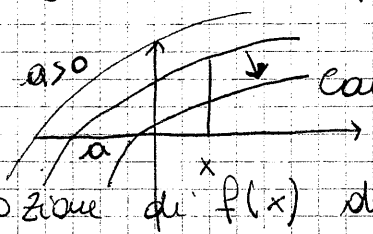
$y = f(x)$

$y = f(x) + 2$



$y = f(x) + a$ si ottiene traslando verticalmente il grafico di $f(x)$ di a

$y = f(x + a)$



si ottiene per traslazione di $f(x)$ di a se > 0 sinistra $a < 0$ destra