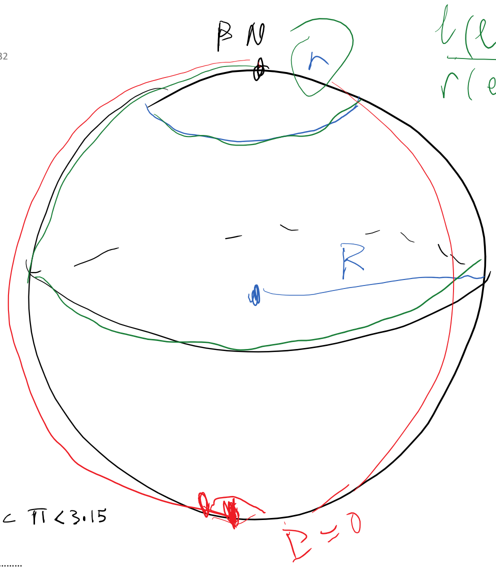
Pi

sabato 13 marzo 2021 00:32



$$\frac{l(eq.)}{r(ef)} = \frac{40\cdot000}{10\cdot000} \sim 4 = 2P.$$

$P = 2$

$3.14 < \pi < 3.15$

3.14159265359.........

Da <https://www.google.com/search?q=pi+&rlz=1C1GCEU_itIT892IT892&oq=&aqs=chrome.1.69i57j6j69i59l2j0i67i131i433j0i131i433l2j69i65._5309j0j7&sourceid=chrome&ie=UTF-8>

$2\pi \frac{r}{R} R$

$(r>0)$

$\sin\left(\frac{r}{R}\right) < \frac{r}{R}$

$$\boxed{2\pi \sin\left(\frac{r}{R}\right) R} \quad r\to 0 \quad \sim 2\pi r$$

$= 2P \cdot r$

$$P = \pi \cdot \frac{\sin(r/R)}{r/R} = \pi \cdot \mathrm{sinc}\left(\frac{r}{R}\right)$$

$P = 3.14$ $\qquad \frac{P}{\pi} = 1 - \frac{x^2}{6} + O(x^4)$ $\qquad x = \frac{r}{R} = 0.995\ldots$

SE MISURATE
$P = 3.14$
ALLORA (SE $R = 6.370\ldots$ Km)
$r = 1.08\ldots 10^3$ Km.

$$X = \sqrt{6\left(1 - \frac{P}{\pi}\right)} = 0.17' = \frac{r}{R}$$

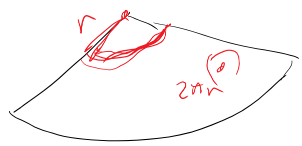
$R = 6.37 \times 10^3$ $\qquad \boxed{r = 1.08 \times 10^3}$

TUTTI I CONTI SONO INVERTIBILI: SE $r \simeq 10^3$ DA' $P = 3.14$ | ALLORA $R = 6 \times 10^3$

Controllo: $\cancel{z}^2 = \varepsilon$ $\qquad x^2 + x^4 = \varepsilon$ $\quad\Big|\quad z = x\sqrt{1+x^2}$ $\qquad \frac{z}{x} = \sqrt{1+x^2}$

O.K.

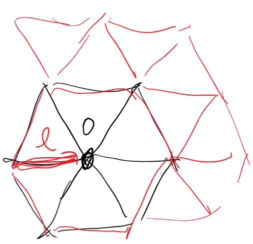
Altre possibilità



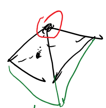
Questo però ci dà $P = 3.14$ IN UN SOLO PUNTO!

OPPURE

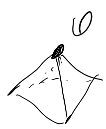
$\frac{2\cdot 3\, l}{l}$



PIANO | Pnr = 2×3·raggio



OTTAEDRO



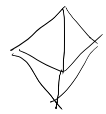
"ti p π"

Pnr = 2×2·raggio

Pnr = 2×0×raggio

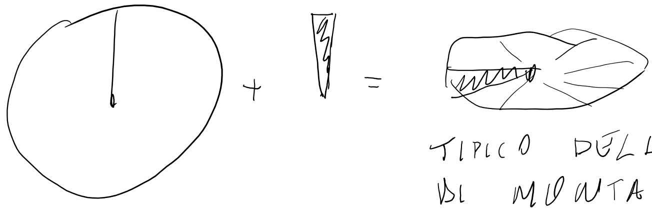
Piano "tipo Ti"

$Per = 2 \times 3 \cdot raggio$

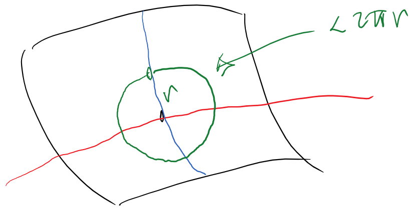


$Per = 2 \times 0 \times raggio$ collassa!

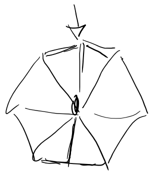
$P = 3{,}15$



Tipico delle selle di montagna (qualitativamente).



Perimetro $= 2 \cdot 6 \cdot$ raggio



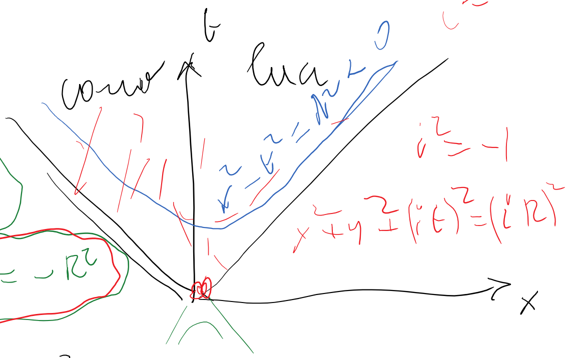
$5 \times 8 - 8 = 32$

$2 \times 2 \times 8$

$2 \times 8 \times$ raggio

DOVE RECUPERO IL RAGGIO?

MINKOWSKI



$x^2 + y^2 + t^2 = R^2$

$x^2 + y^2 - t^2 = -R^2$

$dx^2 - dt^2 = ds^2$

$x^2 - t^2 = s^2$

$x = vt \qquad v < 1$

$s^2 = -(1 - v^2)\, t^2$

$s = i\, t \sqrt{1 - v^2}$

$dx^2 + dy^2 - dt^2 = -ds^2$

$t > 0$

$y^2 + x^2 - t^2 = -R^2$

$x = R\cos\theta \cdot \sinh A$

$y = R\sin\theta \cdot \sinh A$

$x^2 + y^2 = R^2 \sinh^2 A$

$t = R\cosh A$

$-R^2 = R^2\sinh^2(A) - R^2\cosh^2(A)$

A FIXED

ora

$\gamma(v) = \left(R\cos\frac{v}{R}\, \sinh(A),\ R\sin\frac{v}{R}\, \sinh A,\ R\cosh A\right)$

$\dot{x}^2 + \dot{y}^2 - \dot{t}^2 = \sinh^2(A)$

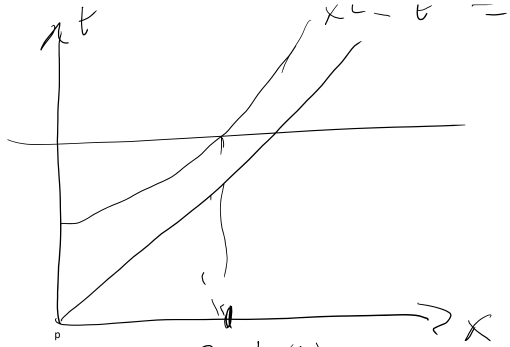
$\mathrm{LENGTH}(\gamma) = \sinh(A) \cdot \int_0^{2\pi R} dv = 2\pi R \sinh(A)$

RADIUS:

$x^2 - t^2 = -R^2$

$x = R\sinh(w)$

RADIUS:

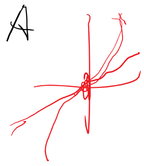


$$x = R\,\mathrm{Sinh}(u)$$
$$t = R\,\mathrm{Cosh}(u)$$
$$x^2 - t^2 = -R^2$$
$$\int \sqrt{dx^2 - dt^2} = R$$
$$\int_0^A R\,du = RA$$

$$RA \mapsto 2\pi R\,\mathrm{Sinh}(A)$$

$$\boxed{r \mapsto 2\pi R\,\mathrm{Sinh}(r/R)} > 2\pi r$$

$\mathrm{Sinh}(x) > x$ $(x>0)$



O.K.

Sfera di raggio immaginario:

$$\underbrace{x^2 + y^2}_{\text{space}} + \underbrace{(it)^2}_{\text{time}} = (iR)^2$$