

→ MOTO CIRCOLARE.
↳ LESSIONE DRARIA

PENDOLO

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MOTO AD ACCELERAZ. COSTANTE

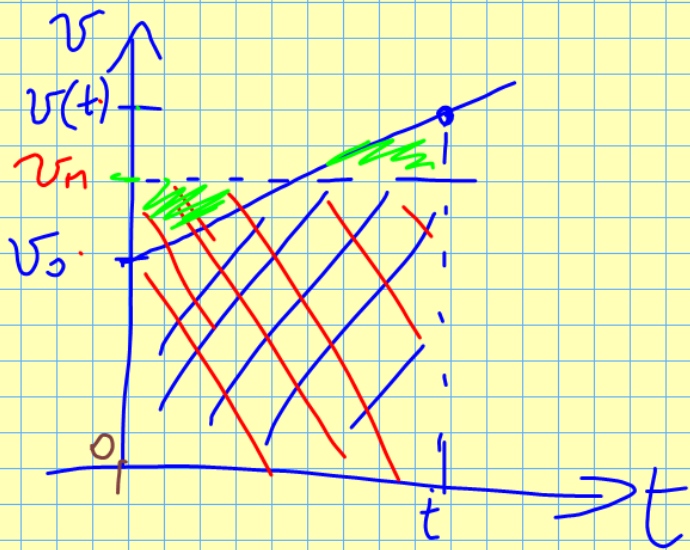
$$\begin{cases} v(t) = v_0 + at \\ x(t) = x_0 + v_0 t + \frac{1}{2} at^2 \end{cases}$$

DEF DI ACC. MEDIA

$$a = \frac{\Delta v}{\Delta t} = \frac{v - v_0}{t - t_0} = \frac{v - v_0}{t} \quad t_0 = 0$$

$$\text{cont} = \boxed{a = \frac{v - v_0}{t}}$$

$$\begin{aligned} at &= v - v_0 \\ v_0 + at &= v \end{aligned}$$

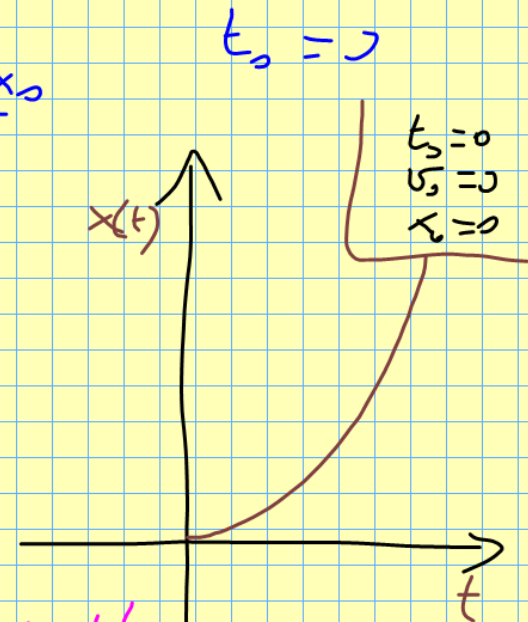


$$v_m = \frac{\Delta x}{\Delta t} = \frac{x - x_0}{t - t_0} = \frac{x - x_0}{t}$$

$$v_m = \frac{x - x_0}{t}$$

$$v_m t = x - x_0$$

$$x_0 + v_m t = x$$



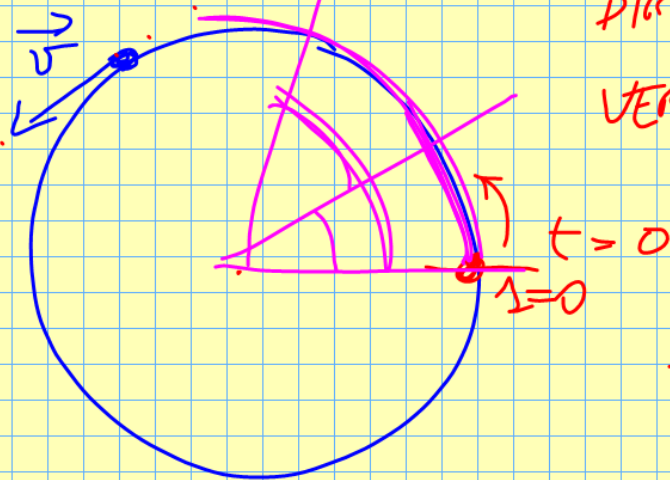
$$x(t) = x_0 + v_m t = x_0 + \left(v_0 + \frac{1}{2}at\right)t = x_0 + v_0 t + \frac{1}{2}at^2$$

$$v_m = \frac{v + v_0}{2} = \frac{(v_0 + at) + v_0}{2} = \frac{2v_0 + at}{2} = v_0 + \frac{1}{2}at$$

MOTO - CIRCOLARE

TRAJETTORIA

↓
INSIEME DI
PUNTI
OCCUPATI
DAL PUNTO
MATERIALE
NEL TEMPO



UNIFORME

↓
VELOCITÀ
IN MODULO

$$v = \omega r$$

DIREL DELLA VELOCITÀ TANGENTE ALLA CIRC.
VERSO O ORARIO O ANTIORARIO

$$s(t) = s_0 + vt = vt$$

T periodo

VELOCITÀ
ANGOLARE

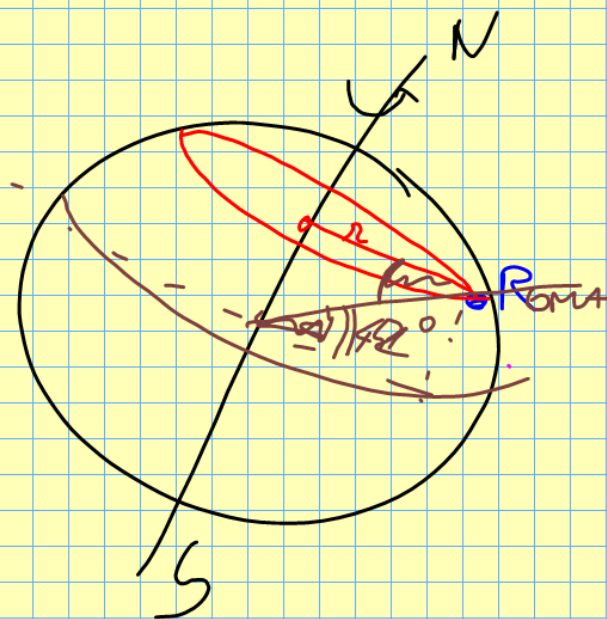
giro completo $\alpha = 360^\circ$

$$\omega = \frac{\Delta \alpha}{\Delta t}$$

$$\Delta\alpha = 360^\circ$$

$$\Delta t = T = 24 \text{ h}$$

$$\omega = \frac{360^\circ}{24 \text{ h}} = 15^\circ/\text{h} = \frac{15^\circ}{3600 \text{ s}} = \left(\frac{15}{3600}\right)^\circ/\text{s}$$

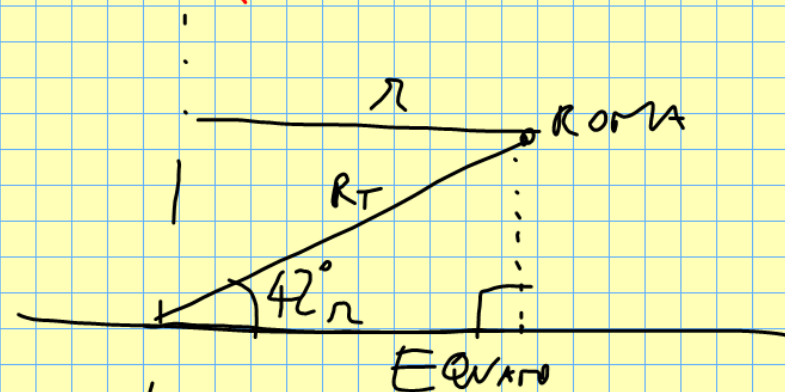


$$\Delta s = 2\pi \cdot r$$

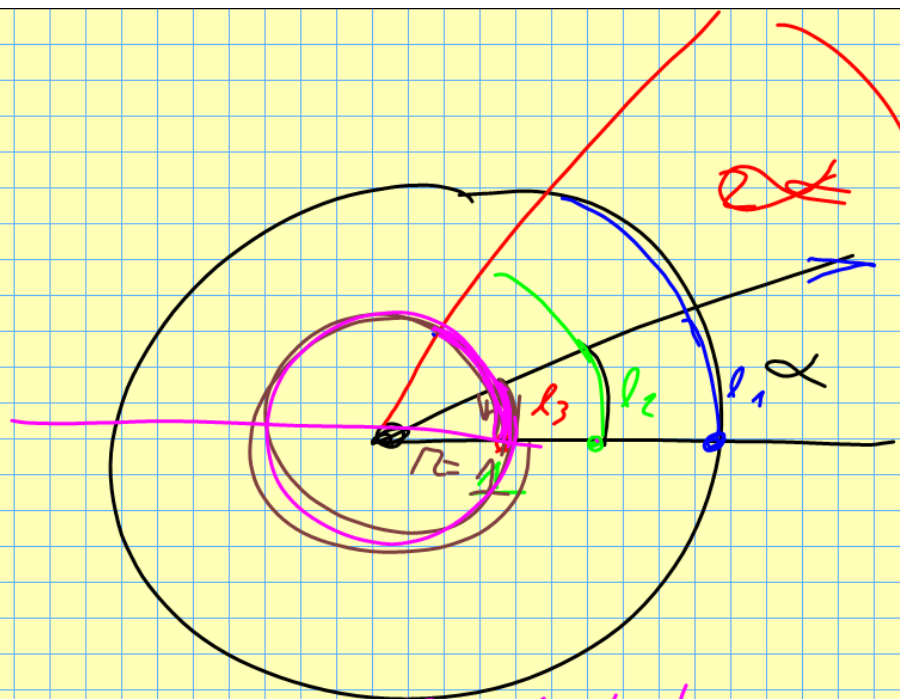
$$R_T = 6400 \text{ km}$$

$$r = R_T \cos 42^\circ$$

$$= 6400 \cdot 0,74 = 4760 \text{ km}$$



$$v = \frac{\Delta s}{\Delta t} = \frac{2\pi \cdot 4760 \cdot 10^3}{24 \cdot 3600} \approx 1100 \text{ km/h}$$



$$v = \frac{2\pi R}{T} = \left(\frac{2\pi}{T}\right) \cdot R$$

$$= \omega_{\text{rot}} \cdot R$$

$\frac{\alpha^\circ}{360^\circ}$	$\frac{\omega_{\text{rot}}}{2\pi}$
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$$v = \omega \cdot r$$

$$\omega = \frac{v}{r}$$

$$s(t) = v \cdot t = \omega \cdot r \cdot t = \frac{2\pi r}{T} \cdot t$$