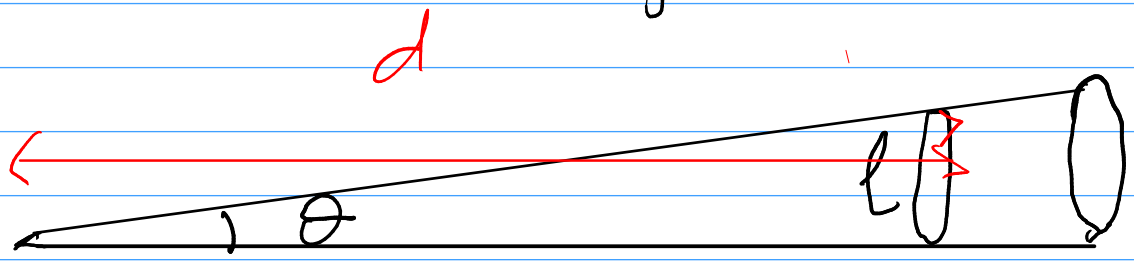
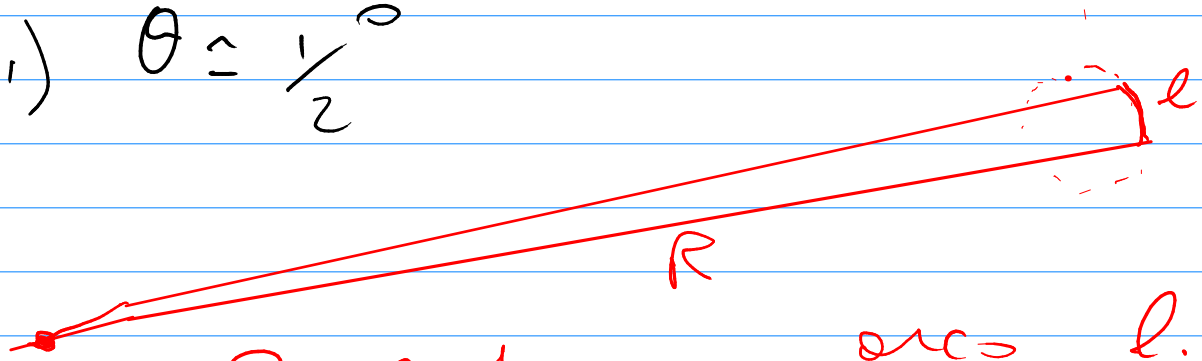
→ dimensione angolare

apparente

≈ diametro angolare Luna.



1) $\theta \simeq \frac{1}{2}^\circ$



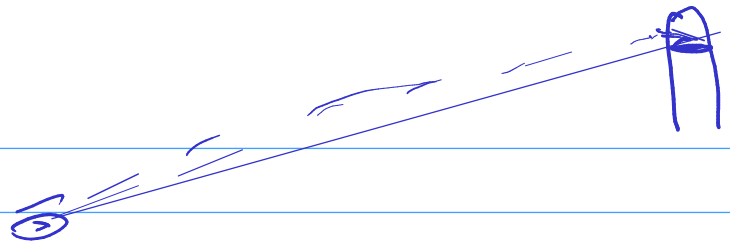
$\theta << 1$ (rad)

$\frac{arco}{R} \simeq \frac{l \cdot \text{rad}}{R}$

$\frac{l}{d} \simeq \alpha_{LUNA} \simeq \frac{1/2^\circ}{2} \rightarrow$ rad

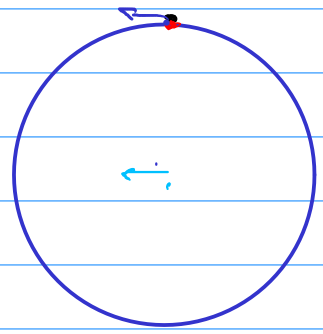
$d = \frac{l}{\Delta\theta_{LUNA}} = l \times \left(\frac{1}{\Delta\theta_{Lun}}\right)$

$d \simeq l \times \frac{1}{\Delta\theta_{Lun}}$



$$\left(\frac{L_{pollice}}{d_{occhio-pollice}} \right) = L_{\theta pollice}$$

$$\frac{1}{L_{\theta pollice}} \Rightarrow \times \text{dimensione pollice}$$

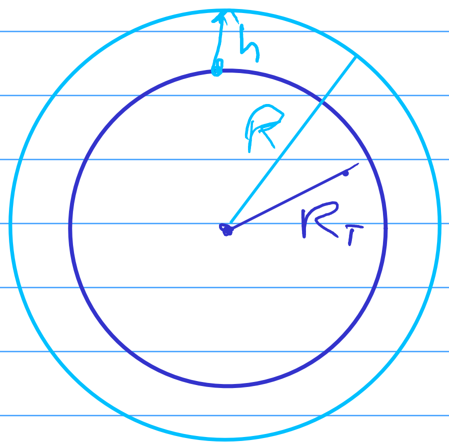


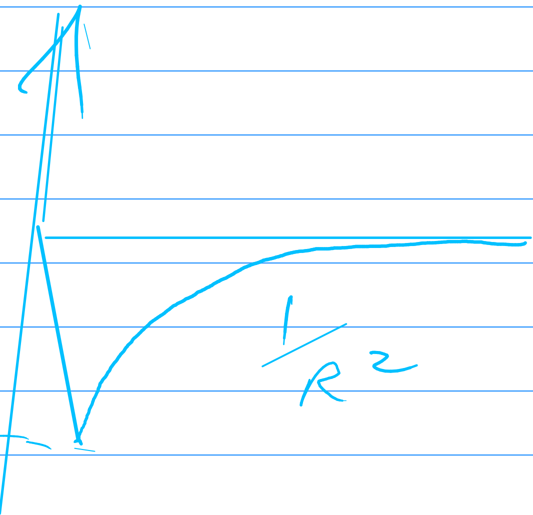
$(T/4)$

$v_y = 0$

$v_x\left(\frac{T}{4}\right) = v$

$h = 420\,km$





$$F = \frac{G M_T m}{R^2} \rightarrow a = \frac{F}{m} = \frac{G M_T}{R^2}$$

$$g_{ISS} = \frac{G M_T}{(R_T + h)^2} \qquad h \geq 0$$

acc. di caduta libera

campo gravitazionale

$$\frac{1}{1 \pm \varepsilon} \cdot \frac{1 \mp \varepsilon}{1 \mp \varepsilon} = \frac{1 \mp \varepsilon}{1 - \varepsilon^2} \simeq 1 \mp \varepsilon$$

$[\varepsilon < \ll 1]$

$$\frac{1}{1 + 0.01} \simeq 1 - 0{,}01 = 0{,}99$$

$$\frac{1}{1+\varepsilon} \simeq 1 - \varepsilon$$

$$\frac{1}{1-\varepsilon} \simeq 1 + \varepsilon$$

$$(1+\varepsilon)^2 = 1 + 2\varepsilon + \varepsilon^2 \longrightarrow \simeq 1 + 2\varepsilon$$

$\varepsilon \ll 1$

$$(1-\varepsilon)^2 \simeq 1 - 2\varepsilon$$

$$g_{ISS} \simeq \frac{GM_T}{(R_T + h)^2} = \frac{GM_T}{R_T^2} \frac{1}{\left(1 + h/R_T\right)^2}$$

$$\simeq g \frac{1}{\left(1 + 2h/R_T\right)}$$

$$\simeq g\left(1 - \frac{2h}{R_T}\right)$$

$h = 400\,km$

$$\simeq g\left(1 - \frac{800\,km}{6400\,km}\right)$$

$$\simeq g\left(1 - \frac{1}{8}\right)$$

$$g_{ISS} \simeq g\left(1 - \frac{1}{8}\right)$$

$T_{o.r.} \rightarrow T_{ISS}$

$v_{o.r.} \rightarrow v_{ISS}$