

10) $h = 400 \text{ km}$ \wedge $R = 6371 \text{ km}$ \wedge 400 km

$v_{\infty} = 2,94 \frac{\text{km}}{\text{s}}$ \wedge $\mu = 398600 \frac{\text{km}^3}{\text{s}^2}$

* Energía específica:

$$E = \frac{v_{\infty}^2}{2} = \left(2,94 \frac{\text{km}}{\text{s}}\right)^2 \cdot \frac{1}{2} = 4,32 \frac{\text{km}^2}{\text{s}^2}$$

* Radio de perigeo: $r_p = 6371 \text{ km} + 400 \text{ km} = 6771 \text{ km}$

* Cálculo del Δv

$$v_{\text{inicial}} = \sqrt{\frac{\mu}{r_p}} \approx 7,67 \frac{\text{km}}{\text{s}}$$

$$v_{\text{final}} = \sqrt{v_{\infty}^2 + \frac{2\mu}{r_p}} \approx 11,24 \frac{\text{km}}{\text{s}}$$

$$\Delta v = |v_f - v_i| = 11,24 \frac{\text{km}}{\text{s}} - 7,67 \frac{\text{km}}{\text{s}} = 3,57 \frac{\text{km}}{\text{s}}$$