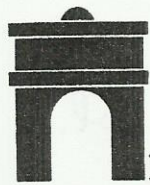


EXAMEN DE FÍSICA



DÍAZ
BALAGUER
CENTRO DE ESTUDIOS

ALUMNO D.

ASIGNATURA

OPCIÓN A PREGUNTA 1º

1A

$$r_p = 3 \cdot 10^6 \text{ m}$$

$$S_1 \begin{cases} h_1 = 10^6 \text{ m} \Rightarrow r_1 = 3 \cdot 10^6 + 10^6 = 4 \cdot 10^6 \text{ m} \\ T = 2h = 7200 \text{ s} \end{cases}$$

$$S_2 \begin{cases} r_2 = 500 \text{ km} + r_1 = 5 \cdot 10^5 + r_1 = 5 \cdot 10^5 + 4 \cdot 10^6 = 4.5 \cdot 10^6 \text{ m} \\ T = ? \end{cases}$$

$$g_p = \frac{G \cdot M_p}{r_p^2}$$

$$T = \frac{2\pi r}{v}$$
$$v = \sqrt{\frac{G \cdot M_p}{r_p + h}}$$

$$T \cdot v = 2\pi r \rightarrow r_p + h$$

$$T \cdot \sqrt{\frac{G \cdot M_p}{r_p + h}} = 2\pi r \rightarrow r_p + h$$

$$T^2 \cdot \frac{G \cdot M_p}{r_p + h} = 4\pi^2 (r_p + h)^2$$

$$G \cdot M_p = \frac{4\pi^2 \cdot (r_p + h)^3}{T^2} \rightarrow \text{sustituir en } g_p :$$

$$g_p = \frac{4\pi^2 (r_p + h)^3}{T^2 \cdot r_p^2} \rightarrow \text{usando } h_1 \text{ y } T_1 \rightarrow \text{obteniendo } g_p$$

Con $g_p \rightarrow$ sustituir datos $r_2 \rightarrow$ despejar T_2