

Pauta P3 C1

a) • Mov. del proyectil

$$\left. \begin{array}{l} y_0 = 0 \\ y_f = 0 \end{array} \right\} \begin{array}{l} y_f = y_0 + v_0 \cdot t - \frac{1}{2} g t^2 \\ 0 = v_0 t - \frac{1}{2} g t^2 \end{array} \Rightarrow t = \frac{2v_0}{g} \quad \begin{array}{l} \text{tiempo en subir} \\ \text{y bajar por el agujero.} \end{array}$$

+0.25 +0.25

• Mov. del disco.

$$\theta_f = \theta_0 + \omega_0 \cdot t + \frac{1}{2} \alpha t^2$$

$$\Rightarrow 2\pi = \frac{1}{2} \alpha \left(\frac{2v_0}{g} \right)^2 \Rightarrow \alpha = \frac{\pi g^2}{v_0^2} \quad +0.25$$

+0.25

b) Disco da N vueltas $\Rightarrow \theta_f = 2\pi N \quad +0.4$

$$\Rightarrow 2\pi N = \frac{1}{2} \alpha \left(\frac{2v_0}{g} \right)^2 \Rightarrow \alpha = \frac{\pi N g^2}{v_0^2} \quad +0.4$$

$$t = \frac{2v_0}{g} \quad +0.2$$