

ΚΙΝΗΣΕΙΣ ΜΕ ΕΠΙΤΑΧΥΝΣΗ g

Ελεύθερη πτώση

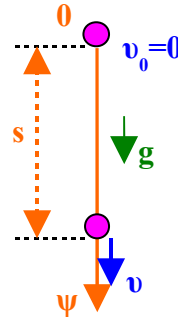
$$\alpha = g = 10\text{m/s}^2$$

$$v = g \cdot t$$

$$s = \frac{1}{2} \cdot g \cdot t^2$$

$$v = \sqrt{2 \cdot g \cdot s}$$

$$s = \frac{v^2}{2 \cdot g}$$



Κατακόρυφη βολή προς τα άνω

$$\alpha = -g = -10\text{m/s}^2$$

$$v = v_0 - g \cdot t$$

$$\psi = v_0 \cdot t - \frac{1}{2} \cdot g \cdot t^2$$

$$v = \pm \sqrt{v_0^2 - 2 \cdot g \cdot \psi}$$

$$\psi = \frac{v_0^2 - v^2}{2 \cdot g}$$

$$v = 0 \Rightarrow t_{\text{ανόδου}} = \frac{v_0}{g} \quad \text{και} \quad \psi_{\text{μεγ}} = \frac{v_0^2}{2 \cdot g}$$

$$\psi = 0 \Rightarrow t_{\text{επανόδου}} = \frac{2 \cdot v_0}{g} \quad \text{και} \quad v = -v_0$$

