

Ex 8 pag 587

$$m = ? \quad k = 300 \frac{\text{N}}{\text{m}}$$

$$T = 0,262$$

1/2

molla orizzontale

$$T^2 = 4\pi^2 \frac{m}{k}$$

$$T = 2\pi \sqrt{\frac{m}{k}}$$
$$m = \frac{T^2 k}{4\pi^2} = \frac{(0,262)^2 (300 \frac{\text{N}}{\text{m}})}{39,48} = 0,51 \text{ kg}$$

Ex 9 pag

$$m \quad l = l_0 \quad x = l_0$$

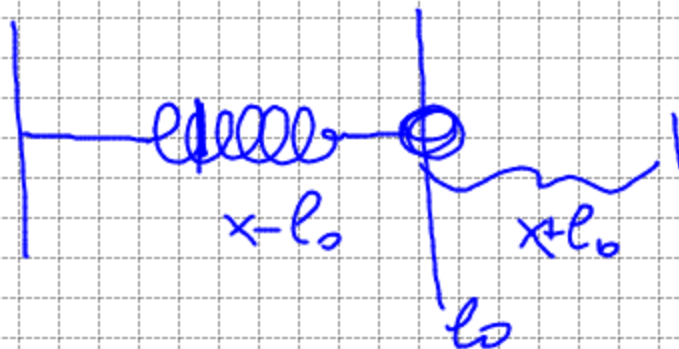
molla orizzontale

$$x = l_0 + \frac{mg}{k}$$

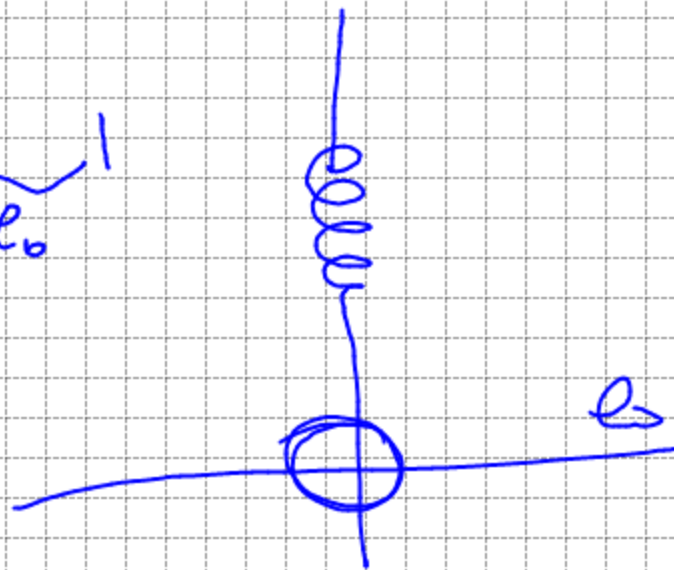
$$F = mg \quad F = k \Delta l$$

$$mg = k(x - l_0)$$

↑
↓
x



$$x = \frac{mg}{k} + l_0$$



p. 587 n. 11

moto armonico

$v = ?$ con cui passa nel centro della terra

$$E = K + U$$

$$E = \frac{1}{2} K A^2$$

m_0

$$R_T = 6370 \cdot 10^3 \text{ m}$$

$$G = 6,7 \cdot 10^{-11} \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2}$$

$$\rho_T = 5,5 \cdot 10^3 \frac{\text{kg}}{\text{m}^3}$$

$$K = \frac{1}{2} m_0 v_{\text{max}}^2$$

$$v_{\text{max}} = \sqrt{\frac{K}{m_0}} R_T$$

$$\frac{K}{m_0} = \frac{4}{3} \pi G \rho_T$$

$$v_{\text{max}} = \sqrt{\frac{4}{3} \pi G \rho_T} R_T$$

finire x casa

