

... è possibile lasciare il corpo in modo che questo  
 caso affermativo, specificare se tratta di posizioni  
 instabile.  
 ... la sua velocità massima, se il corpo è  
 verso  $x = 0$ .

$$F_f = 6,0 \text{ N}$$

$$x = 4 \text{ m}$$

$$L = F \cdot s_{||}$$

$$L = 6,0 \text{ N} \cdot 4 \text{ m} = -24 \text{ J}$$

$$\Delta U = -20 \text{ J}$$

$$\Delta T + \Delta U = L_{\text{tot}} - L_c$$

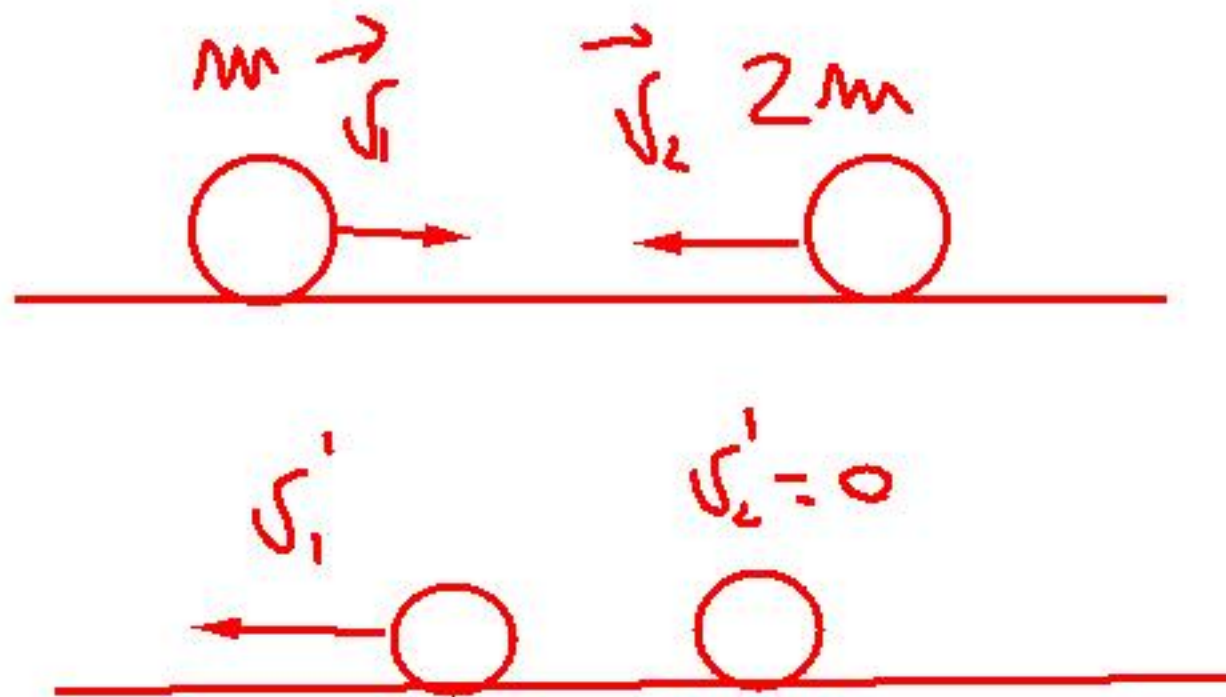
$$\Delta T = L_{\text{tot}} = -24 \text{ J}$$

$$\Delta U = -L_c$$

$$E(x=0 \text{ m}) = 40 \text{ J}$$

$$E(x=4 \text{ m}) = 20 \text{ J}$$

$$\Delta E_{\text{MAX}} = -20 \text{ J}$$



Soluzioni

~~$$v_2 = 0$$~~

$$v_2 = 2v_1$$

$$\begin{cases} m v_1 - 2m v_2 = m v_1' \\ m v_1^2 + 2m v_2^2 = m v_1'^2 \end{cases}$$

$$(v_1 - 2v_2)^2 = v_1'^2$$

$$(v_1 - 2v_2)^2 = v_1^2 + 2v_2^2$$

~~$$v_1^2 + 4v_2^2 - 4v_1 v_2 = v_1^2 + 2v_2^2$$~~

$$4v_2^2 - 4v_1 v_2 - 2v_2^2 = 0$$

$$2v_2^2 - 2v_1 v_2 - v_1^2 = 0$$

$$v_2^2 - 2v_1 v_2 = 0$$

$$v_2(v_2 - 2v_1) = 0$$

$$F = G \frac{m_1 m_2}{r^2}$$

$$U(r) = -G \frac{m_1 m_2}{r}$$

$$[U] = [L] = [F \cdot s] = [F \cdot l]$$

$$F = mg$$

$$U_p = mgh$$

$$g = G \frac{M_T}{R^2}$$

$$U(R+h)$$

$$\underline{\underline{h \ll R}}$$



$$U(R+h) = -G \frac{M_T \cdot m}{R+h} \cdot \frac{R-h}{R-h} =$$
$$= -G \frac{M_T \cdot m}{R^2 - h^2} (R-h) =$$

Se  $h \ll R \Rightarrow -G \frac{M_T}{R^2} \cdot m (R-h) =$

$g = \frac{G M_T}{R^2}$

$$= -mgR + mgh$$

$$U(R+h) \approx -mgR + mgh$$

