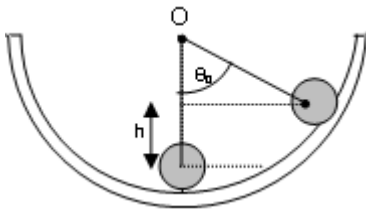


حل التمرين 08



Mohammed Sobhi

$$\begin{aligned}
 W(\vec{P}) &= mgh \\
 &= mg((R-r) - (R-r)\cos\theta_0) \\
 \Rightarrow W(\vec{P}) &= mg(R-r)(1-\cos\theta_0) \\
 \rho &= \frac{m}{V} \Rightarrow m = \rho \cdot V
 \end{aligned}$$

$$W(\vec{P}) = \rho V g (R-r)(1-\cos\theta_0)$$

$$W(\vec{P}) = \rho \frac{4}{3} \pi r^3 g (R-r)(1-\cos\theta_0)$$

$$W(\vec{P}) = \rho \frac{4}{3} \pi r^3 g (R-r)(1-\cos\theta_0)$$

تطبيق عددي :

$$(\vec{P}) = 8.10^3 \times \frac{4}{3} \pi \times (1.10^{-2})^3 \times 9,8 \times (10-1) \cdot 10^{-2} \times (1-\cos 50^\circ)$$

$$W(\vec{P}) = 1,05.10^{-2} \text{ J}$$