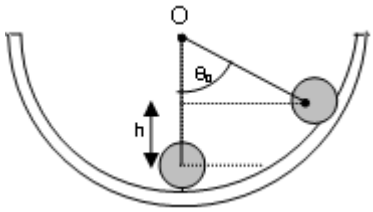
حـل الـتـمـريـن 08



$$W(\vec{P}) = mgh$$
$$= mg((R-r)-(R-r)\cos\theta_0)$$
$$\Rightarrow \quad W(\vec{P}) = mg(R-r)(1-\cos\theta_0)$$
$$\rho = \frac{m}{V} \Rightarrow m = \rho.V$$
$$W(\vec{P}) = \rho V g(R-r)(1-\cos\theta_0)$$
$$W(\vec{P}) = \rho \frac{4}{3}\pi r^3 g(R-r)(1-\cos\theta_0)$$
$$W(\vec{P}) = \rho \frac{4}{3}\pi r^3 g(R-r)(1-\cos\theta_0)$$

تطبيق عددي :

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

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