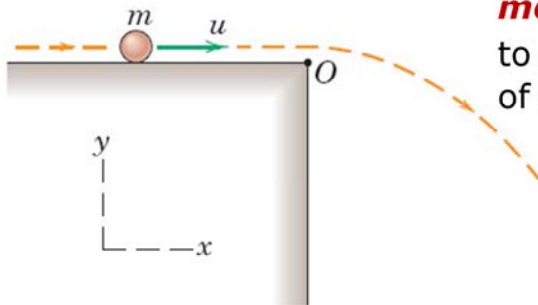


Angular Impulse-Momentum: Exercise

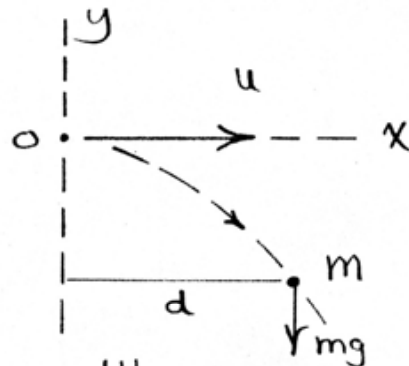
The particle of **mass m** is launched from **point O** with a horizontal **velocity u** at time **$t = 0$** .

Determine its **angular momentum H_O** relative to **point O** as a function of time.



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(Note: $d = ut$)

$$\dot{\underline{H}}_O = \frac{d\underline{H}_O}{dt} = \underline{M}_O = -mgd \underline{k}$$

$$\int_0^t d\underline{H}_O = -\int_0^t mgd \underline{k} dt = -\int_0^t mgut \underline{k} dt$$

$$\Rightarrow \underline{H}_O = -\frac{1}{2}mgut^2 \underline{k}$$