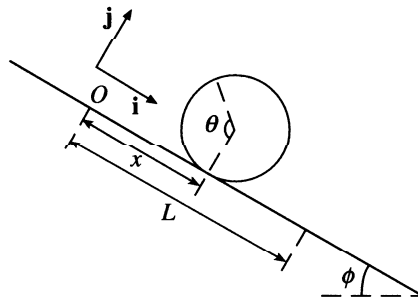


A sphere of radius R , mass M and moment of inertia I rolls down a slope that is inclined at an angle ϕ to the horizontal. The sphere starts from rest and rolls without slipping a distance L down the slope. Choose coordinates x and θ as shown in the diagram.



- Write down a relationship between x and θ .
- Write down an expression for the total kinetic energy of the sphere. Use your result from part (a) to find the kinetic energy in terms of \dot{x} and constants.

I have an answer to (a):

$$x = R \cdot \theta$$

I am just confused by (b)...please help