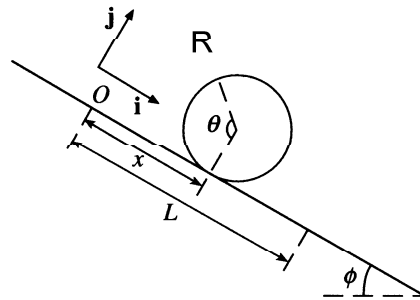


A sphere of radius R , mass M and moment of inertia I rolls down a slope that is inclined at an angle ϕ to the horizontal. The sphere starts from rest and rolls without slipping a distance L down the slope. Choose coordinates x and θ as shown in the diagram.



(a) Write down a relationship between x and θ .

I believe that $x=R*\theta$ (where I have added R to the diagram myself) but is this enough for an answer?

Would you say this is an acceptable answer for a question worth 3 marks, or is there some other way of writing the relationship since R does not actually exist since I have added it myself?

Please help!