A particle of mass 0.3 kg is attached to one end of a light elastic string of natural length 0.8 m and modulus of elasticity 6 N. The other end of the string is attached to a fixed point O. The particle is projected vertically downwards from O with initial speed $2\,\mathrm{m\,s^{-1}}$.

(i) Calculate the greatest speed of the particle during its descent. [5]

(ii) Find the greatest distance of the particle below O. [3]