A light elastic string has natural length a m and modulus of elasticity λ N. When the length of the string is 1.6 m the tension is 4 N. When the length of the string is 2 m the tension is 6 N.

(i) Find the values of a and λ. [5]

One end of the string is attached to a fixed point O on a smooth horizontal surface. The other end of the string is attached to a particle P of mass 0.2 kg. The particle P moves with constant speed on the surface in a circle with centre O and radius 1.9 m.

(ii) Find the speed of P. [3]