



A particle P of mass 0.3 kg is attached to a fixed point A by a light inextensible string of length 0.8 m . The fixed point O is 0.15 m vertically below A . The particle P moves with constant speed $v \text{ m s}^{-1}$ in a horizontal circle with centre O (see diagram).

(i) Show that the tension in the string is 16 N . [2]

(ii) Find the value of v . [3]