

- 1 One end of a light elastic string, of natural length a and modulus of elasticity $3mg$, is attached to a fixed point O . The other end of the string is attached to a particle P of mass m . The string hangs with P vertically below O . The particle P is pulled vertically downwards so that the extension of the string is $2a$. The particle P is then released from rest.

- (a) Find the speed of P when it is at a distance $\frac{3}{4}a$ below O . [3]

[illegible]

- (b) Find the initial acceleration of P when it is released from rest. [2]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.