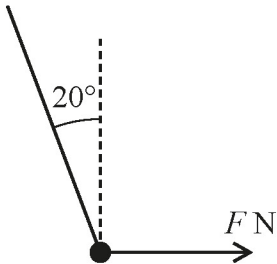


- 3 A particle hangs at the end of a string. A horizontal force of magnitude  $F$  N acting on the particle holds it in equilibrium so that the string makes an angle of  $20^\circ$  with the vertical, as shown in the diagram. The tension in the string is 12 N.



- (a) Find the value of  $F$ . [2]
- (b) Find the mass of the particle. [3]