4 Rory pushes a box of mass 2.8 kg across a rough horizontal floor against a resistance of 19 N. Rory applies a constant horizontal force. The box accelerates from rest to $1.2\,\mathrm{m\,s^{-1}}$ as it travels 1.8 m.

  (i) Calculate the acceleration of the box. [2]

  (ii) Find the magnitude of the force that Rory applies. [2]