

- 12** Points A, B and C lie in a straight line in that order on horizontal ground. A box of mass 5 kg is pushed from A to C by a horizontal force of magnitude 8 N. The box is at rest at A and takes 3 seconds to reach B. The ground is smooth between A and B. Between B and C the ground is rough and the resistance to motion is 28 N. The box comes to rest at C.

Determine the distance AC.

[8]