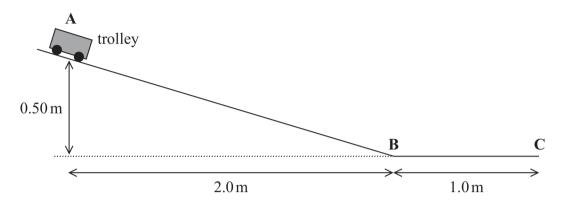
12 A trolley accelerates from rest at point A, down a straight track to point B. The trolley then continues along a horizontal track to point C, as shown.



The effects of air resistance and friction are negligible.

(a) Show that the trolley reaches point B with a speed of about  $3 \,\mathrm{m}\,\mathrm{s}^{-1}$ .

(3)

(b) Determine the time taken by the object to move from point A to point C.

(4)

Time taken =