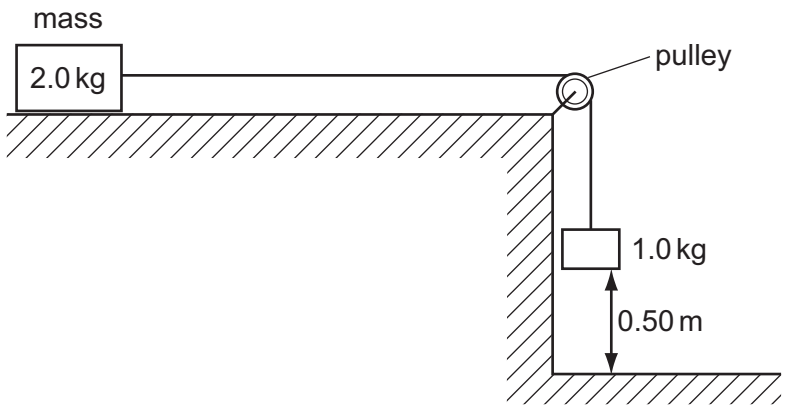
13 A mass of 2.0 kg rests on a frictionless surface. It is attached to a 1.0 kg mass by a light, thin string which passes over a frictionless pulley. The 1.0 kg mass is released and it accelerates downwards.



What is the speed of the 2.0 kg mass as the 1.0 kg mass hits the floor, having fallen a distance of 0.50 m?

A $1.8\,m\,s^{-1}$ **B** $2.2\,m\,s^{-1}$ **C** $3.1\,m\,s^{-1}$ **D** $9.8\,m\,s^{-1}$

Space for working