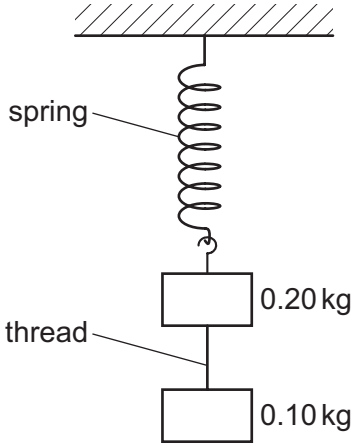
12 A mass of 0.20 kg is suspended from the lower end of a light spring. A second mass of 0.10 kg is suspended from the first mass by a thread. The arrangement is allowed to come into static equilibrium and then the thread is burned through.



At this instant, what is the upward acceleration of the 0.20 kg mass? (Assume $g = 10\,m\,s^{-2}$.)

A $5.0\,m\,s^{-2}$ **B** $6.7\,m\,s^{-2}$ **C** $10\,m\,s^{-2}$ **D** $15\,m\,s^{-2}$