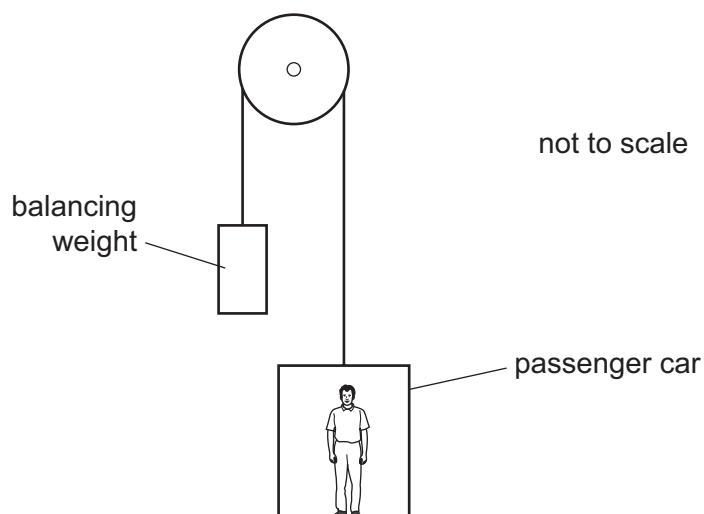**9** A lift (elevator) consists of a passenger car supported by a cable which runs over a light, frictionless pulley to a balancing weight. The balancing weight falls as the passenger car rises.

not to scale

balancing weight

passenger car

Some masses are shown in the table.

	mass / kg
passenger car	520
balancing weight	640
passenger	80

What is the magnitude of the acceleration of the car when carrying just one passenger and when the pulley is free to rotate?

A $0.032\,\mathrm{m\,s^{-2}}$ **B** $0.32\,\mathrm{m\,s^{-2}}$ **C** $0.61\,\mathrm{m\,s^{-2}}$ **D** $0.65\,\mathrm{m\,s^{-2}}$

Space for working