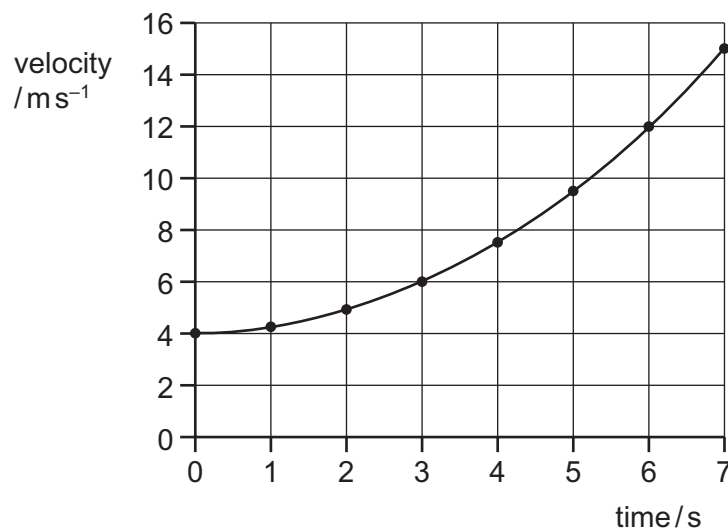**8** The diagram shows a velocity-time graph for a vehicle.
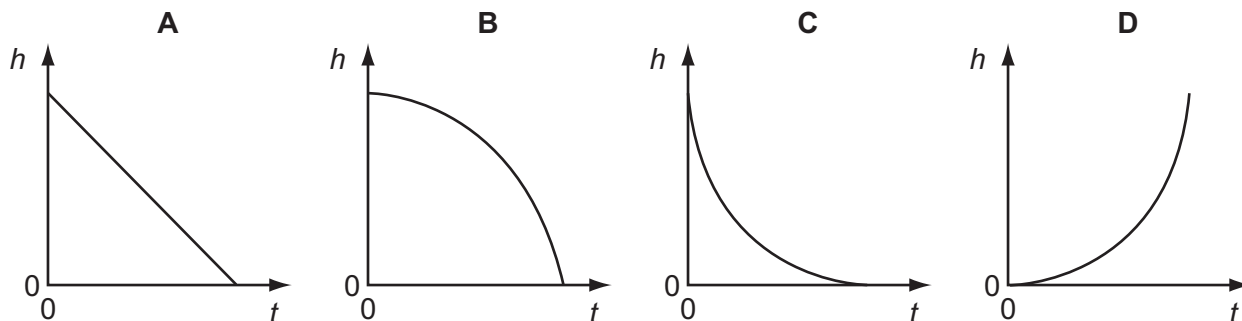

The vehicle, moving at $4.0\,\mathrm{m\,s^{-1}}$, begins to accelerate at time = 0.

What is the vehicle's acceleration at time = $3.0\,\mathrm{s}$?

A $0.67\,\mathrm{m\,s^{-2}}$ **B** $1.0\,\mathrm{m\,s^{-2}}$ **C** $1.3\,\mathrm{m\,s^{-2}}$ **D** $2.0\,\mathrm{m\,s^{-2}}$

9 A small steel ball falls freely under gravity after being released from rest.

Which graph best represents the variation of the height h of the ball with time t?

Space for working