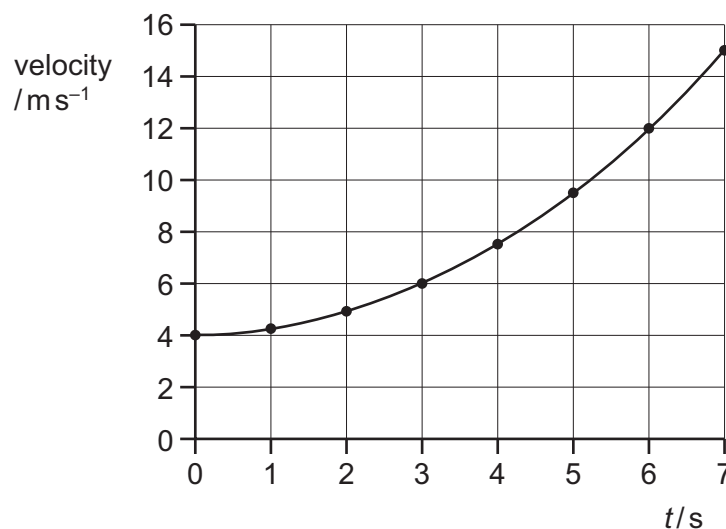**6** The graph shows the variation with time t of the velocity of a vehicle moving in a straight line.

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

What is the vehicle's acceleration at time $t = 3.0\,\mathrm{s}$?

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

7 A stone is projected vertically upwards from the ground at an initial speed of $15\,\mathrm{m\,s^{-1}}$. Air resistance is negligible.

What is the maximum height reached by the stone?

A $0.76\,\mathrm{m}$ **B** $11\,\mathrm{m}$ **C** $23\,\mathrm{m}$ **D** $110\,\mathrm{m}$

8 What is meant by the mass of an object?

A the property of the object that resists a change in motion

B the pull of the Earth on the object

C the total number of atoms in the object

D the weight of the object