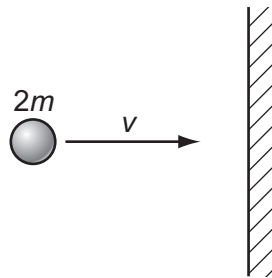**8** A moving body undergoes uniform acceleration while travelling in a straight line between points X, Y and Z. The distances XY and YZ are both 40 m. The time to travel from X to Y is 12 s and from Y to Z is 6.0 s.

What is the acceleration of the body?

A $0.37\,\text{m s}^{-2}$ **B** $0.49\,\text{m s}^{-2}$ **C** $0.56\,\text{m s}^{-2}$ **D** $1.1\,\text{m s}^{-2}$

9 A particle of mass $2m$ and velocity v strikes a wall.

The particle rebounds along the same path after colliding with the wall. The collision is inelastic.

What is a possible change in the momentum of the ball during the collision?

A mv **B** $2mv$ **C** $3mv$ **D** $4mv$

10 Which defines the weight of a body?

A the amount of matter in the body

B the force of gravity on the body

C the number of particles in the body

D the product of the body's volume and density

Space for working