

- 5** A stream of water from a hose travels horizontally at speed  $v$ . The stream strikes a brick wall and falls vertically down it without splashing.

The stream of water is a cylinder of cross-sectional area  $A$ . The water has density  $\rho$ .

Which expression is the force exerted on the wall by the water?

**A**  $\frac{1}{2}A\rho v^2$

**B**  $A\rho v^2$

**C**  $\frac{3}{2}A\rho v^2$

**D**  $2A\rho v^2$

- 6** Two train carriages each of mass 5000 kg roll toward one another on a horizontal frictionless