

**10** Which is **not** one of Newton's laws of motion?

- A** The total momentum of a system of interacting bodies remains constant, providing no external force acts.
- B** The rate of change of momentum of a body is directly proportional to the external force acting on the body and takes place in the direction of the force.
- C** If body A exerts a force on body B, then body B exerts an equal and oppositely-directed force on body A.
- D** A body continues in a state of rest or of uniform motion in a straight line unless acted upon by some external force.

**11** Two equal masses travel towards each other on a frictionless air track at speeds of  $60 \text{ cm s}^{-1}$  and