

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 cm s^{-1} and 40 cm s^{-1} . They stick together on impact.



What is the speed of the masses after impact?

- A 10 cm s^{-1} B 20 cm s^{-1} C 40 cm s^{-1} D 50 cm s^{-1}

12 What is the centre of gravity of an object?

- A the geometrical centre of the object
- B the point about which the total torque is zero
- C the point at which the weight of the object may be considered to act
- D the point through which gravity acts