

- 9 Which statement about a perfectly elastic collision between two bodies in an isolated system is correct?
- A Both total kinetic energy and total momentum are conserved.
 - B Total kinetic energy is conserved, but total momentum is not conserved.
 - C Total momentum is conserved, but total kinetic energy is not conserved.
 - D Neither total kinetic energy nor total momentum is conserved.
- 10 Two spheres approach each other along the same straight line. Their speeds are u_1 and u_2 before they collide. After the collision, the spheres separate with speeds v_1 and v_2 in the directions shown below.



The collision is perfectly elastic. Which equation must be correct?

- A $u_1 - u_2 = v_2 + v_1$
- B $u_1 - u_2 = v_2 - v_1$
- C $u_1 + u_2 = v_2 + v_1$
- D $u_1 + u_2 = v_2 - v_1$