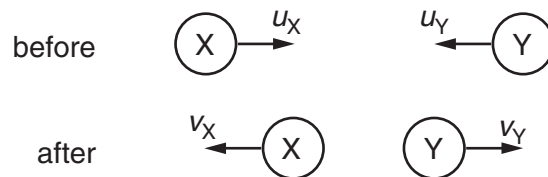


12 Two balls X and Y approach each other along the same straight line and collide elastically.

Their speeds are u_X and u_Y respectively. After the collision they move apart with speeds v_X and v_Y respectively. Their directions are shown on the diagram.



Which of the following equations is correct?

- A** $u_X + u_Y = v_X + v_Y$
- B** $u_X + u_Y = v_X - v_Y$
- C** $u_X - u_Y = v_X + v_Y$
- D** $u_X - u_Y = v_X - v_Y$