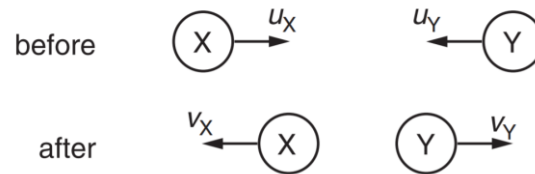5   Two balls X and Y of the same mass approach each other along the same straight line and collide elastically. Their speeds are u_X and u_Y respectively. After the collision they move apart with speeds v_X and v_Y respectively. Their directions are shown on the diagram.

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 $u_X - u_Y = v_X - v_Y$