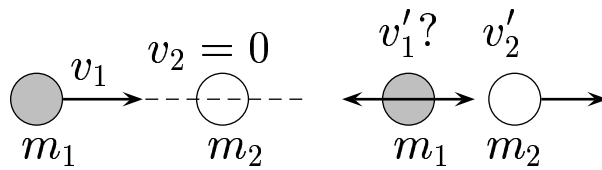


Given : A ball m_1 is approaching $m_2 = m_1$ with a speed v_1 .



before

after

After an elastic collision, find the final velocities v_1' and v_2' .

- A) $v_1' = \frac{v_0}{2}$ and $v_2' = \frac{v_0}{2}$.
- B) $v_1' = \frac{v_0}{3}$ and $v_2' = \frac{2v_0}{3}$.
- C) $v_1' = 0$ and $v_2' = v_0$.
- D) $v_1' = \frac{-v_0}{2}$ and $v_2' = \frac{3v_0}{2}$.

For all choices, $P_i = m v_1 + m v_2 = P_f = m v_1' + m v_2'$.

$K_i = \frac{m v_1^2}{2}$. The answer must satisfy $K_f = K_i$.

Answer **C**.