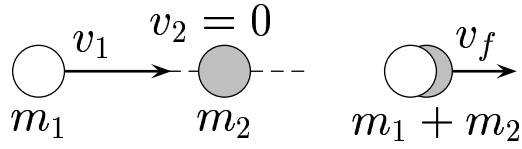


Mass m_1 collides head-on with m_2 . Initially $v_1 = 1$ m/s, $v_2 = 0$. $m_1 = m$, $m_2 = 2m$. After collision, m_1 and m_2 are stuck together.



before

after

Find v_f .

- A) $v_f = v_1$.
- B) $v_f = \frac{v_1}{2}$.
- C) $v_f = \frac{v_1}{3}$.

Conservation of momentum $m_1 v_1 + m_2 v_2 = (m_1 + m_2) v_f$, then $m v_1 =$

$$3 m v_f, \text{ or } v_f = \frac{v_1}{3}.$$

Answer **C**.

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