**6** A molecule of mass $m$ travels with velocity $+u$ directly towards a stationary molecule of mass $4m$ and collides elastically with it.

What is the velocity of the molecule of mass $m$ after the collision?

**A** $+\dfrac{u}{5}$ **B** $-\dfrac{3}{5}u$ **C** $-\dfrac{4}{5}u$ **D** $-u$