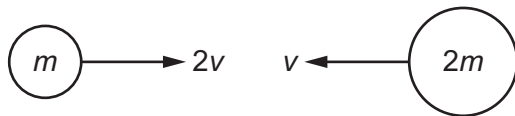


- 10** Two balls, of masses m and $2m$, travelling in a vacuum with initial velocities $2v$ and v respectively, collide with each other head-on, as shown.



After the collision, the ball of mass m rebounds to the left with velocity v .

What is the loss of kinetic energy in the collision?

A $\frac{3}{4}mv^2$

B $\frac{3}{2}mv^2$

C $\frac{9}{4}mv^2$

D $\frac{9}{2}mv^2$