3 Object P travels at $2.0\,\mathrm{m\,s^{-1}}$ and collides elastically with object Q, which is initially at rest.

After the collision, object P rebounds with a speed of $0.50\,\mathrm{m\,s^{-1}}$.

What is the ratio $\dfrac{\text{mass of P}}{\text{mass of Q}}$?

A $\dfrac{1}{3}$ B $\dfrac{3}{5}$ C $\dfrac{5}{3}$ D $\dfrac{3}{1}$

4 A spherical buoy is attached to the sea bed by a rope, as shown. The buoy is in equilibrium