11 An object of mass 20 kg is travelling at a constant speed of $6.0\,\text{m}\,\text{s}^{-1}$.

It collides with an object of mass 12 kg travelling at a constant speed of $15\,\text{m}\,\text{s}^{-1}$ in the opposite direction. The objects stick together.

What is the speed of the objects immediately after the collision?

A $1.9\,\text{m}\,\text{s}^{-1}$ **B** $9.0\,\text{m}\,\text{s}^{-1}$ **C** $9.4\,\text{m}\,\text{s}^{-1}$ **D** $21\,\text{m}\,\text{s}^{-1}$

Space for working