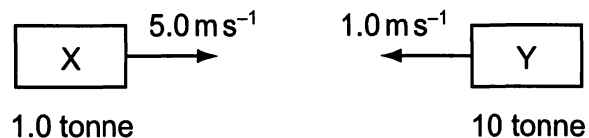8   Two vehicles, travelling directly towards each other, collide.

Initially, vehicle X of mass 1.0 tonne is moving at $5.0\,\text{m s}^{-1}$ and vehicle Y of mass 10 tonne is moving at $1.0\,\text{m s}^{-1}$.

The vehicles become locked together on impact.

What is the velocity of the vehicles immediately after impact?

A $0.45\,\text{m s}^{-1}$ to the left

B $0.45\,\text{m s}^{-1}$ to the right

C $1.4\,\text{m s}^{-1}$ to the left

D $1.4\,\text{m s}^{-1}$ to the right