

12 Two railway trucks of masses m and $3m$ move towards each other in opposite directions with speeds $2v$ and v respectively. These trucks collide and stick together.

What is the speed of the trucks after the collision?

A $\frac{v}{4}$

B $\frac{v}{2}$

C v

D $\frac{5v}{4}$

13 The diagrams above show three forces acting on a body.