

Solutionbank M1

Heinemann Modular Maths for Edexcel AS and A-level

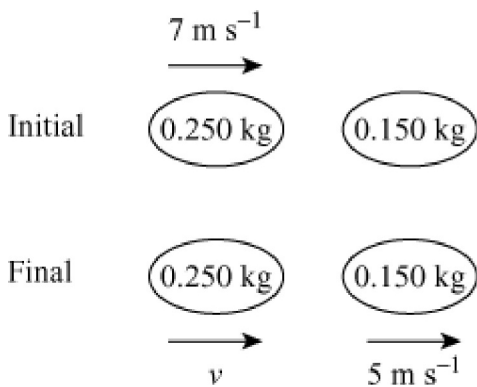
8 Momentum

Exercise A, Question 4

Question:

A particle A of mass 250 grams collides with a particle B of mass 150 grams. Initially A has velocity 7 m s^{-1} and B is at rest. After the collision, the velocity of B is 5 m s^{-1} . Calculate the velocity of A after the impact.

Solution:



Using conservation of momentum

$$7 \times 0.25 = 0.25v + 5 \times 0.15$$

$$1 = 0.25v$$

$$v = 4$$

\therefore Velocity of A is 4 m s^{-1} .