

Solutionbank M1

Heinemann Modular Maths for Edexcel AS and A-level

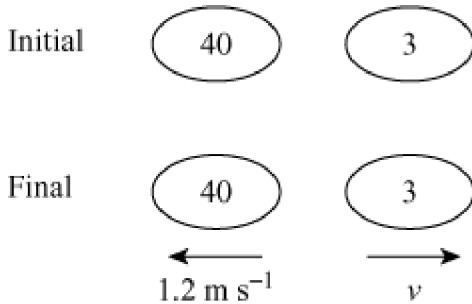
8 Momentum

Exercise Test yourself, Question 2

Question:

A child of mass 40 kg stands on a skate board, of mass 3 kg. Initially both are at rest. The boy jumps off so that he travels horizontally at 1.2 m s^{-1} . Find the speed of the skateboard.

Solution:



Using conservation of momentum

$$0 = 1.2 \times 40 - 3v$$

$$v = 16$$

\therefore Speed is 16 m s^{-1} .

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