

1A Momentum in One Dimension

Momentum:

Impulse:

1. Find the magnitude of the momentum of:
 - a) A cricket ball of mass 400g moving at 18ms^{-1}

- b) A lorry of mass 5 tonnes moving at 12ms^{-1}

2. A body of mass 2kg is initially at rest on a smooth horizontal plane. A horizontal force of magnitude 4.5N acts on the body for 6s. Find:

a) The magnitude of the impulse given to the body by the force

b) The final speed of the body

3. A ball of mass 0.2kg hits a vertical wall at right angles with a speed of 3.5ms^{-1} . The ball rebounds from the wall with speed 2.5ms^{-1} . Find the magnitude of the impulse the ball exerts on the wall.