MOMENTUM

1 An object of mass 50 kg accelerates from a velocity of 2.0 m/s to a velocity of 10 m/s in the same direction.

What is the impulse provided to cause this acceleration?

A 250 Ns **B** 400 Ns **C** 850 Ns **D** 2500 Ns

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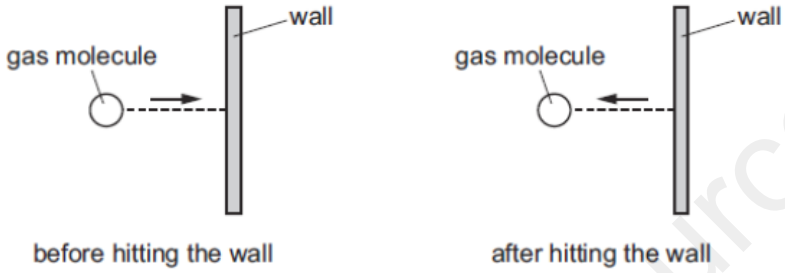
2 A gas molecule strikes the wall of a container. The molecule rebounds with the same speed.



before hitting the wall after hitting the wall

What happens to the kinetic energy and what happens to the momentum of the molecule?

	kinetic energy	momentum
A	changes	changes
B	changes	stays the same
C	stays the same	changes
D	stays the same	stays the same

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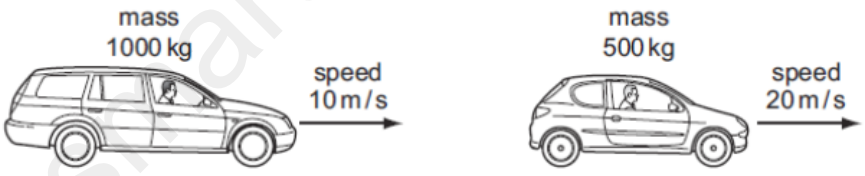
3 Two cars, P and Q, have different masses and different speeds as shown.



car P car Q

Which row correctly compares the momentum and the kinetic energy of P with the momentum and the kinetic energy of Q?

	momentum	kinetic energy
A	P greater than Q	P equal to Q
B	P equal to Q	P equal to Q
C	P equal to Q	P less than Q
D	P less than Q	P greater than Q

4 A girl of mass 50 kg runs at 6.0 m/s.

What is her momentum?

A 300 J **B** 300 kg m/s **C** 900 J **D** 900 kg m/s

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5 A vehicle of mass 900 kg is travelling with a velocity of 20 m/s.

What is the momentum of the vehicle?

A 45 kg m/s **B** 450 kg m/s **C** 18 000 kg m/s **D** 180 000 kg m/s