

Momentum

Question Paper

Course	CIE IGCSE Physics
Section	1. Motion, Forces & Energy
Topic	Momentum
Difficulty	Easy

Time Allowed 10

Score /5

Percentage /100

Question 1**Extended tier only**

Which of these is the correct definition for momentum and its unit?

	Definition	Unit
A	$p = m \div v$	N/m
B	$v = p \times m$	kg m/s
C	$v = p \div m$	N/kg
D	$p = m \times v$	kg m/s

[1 mark]**Question 2****Extended tier only**

Which of the following terms and equations are equivalent to the change in an object's momentum?

	Term	Equation
A.	Force	$F = \frac{I}{t}$
B.	Impulse	$I = Ft$
C.	Force	$F = ma$
D.	Impulse	$I = \frac{\Delta p}{t}$

[1 mark]

Question 3

Extended tier only

A ball with mass of 5.0 kg is moving with a velocity of 3.0 m/s.

What is the momentum of the ball?

- A. 0.6 kg m/s
- B. 1.70 kg m/s
- C. 15 kg m/s
- D. 15 000 kg m/s

[1 mark]

Question 4

Extended tier only

A ball with has momentum = 30 kg m/s hits a stationary ball with momentum = 0 kg m/s so that they both move off.

What is the total momentum of the two balls following the collision?

- A. 0 kg m/s
- B. 3 kg m/s
- C. - 30 kg m/s
- D. 30 kg m/s

[1 mark]

Question 5**Extended tier only**

A footballer kicks a ball with a force of 1500 N. Her foot is in contact with the ball for 1.4 seconds.

What is the impulse on the ball?

- A.** 1070 Ns
- B.** 2100 Ns
- C.** 3000 Ns
- D.** 4200 Ns

[1 mark]