



Cambridge International AS Level

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SPORT & PHYSICAL EDUCATION**8386/13**

Paper 1 Theory

May/June 2025**1 hour 45 minutes**

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You may use a calculator.
- You should show all your working and use appropriate units.

INFORMATION

- The total mark for this paper is 70.
- The number of marks for each question or part question is shown in brackets [].

This document has **16** pages. Any blank pages are indicated.

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(b) The diagram represents the time taken to respond to two different stimuli when performing a skill in a racket sport such as badminton.

stimulus 1

response 1

stimulus 2

response 2

© U



[3]

[6]





(d) Badminton players need high-quality equipment and science support to achieve excellence.

Describe **three** other types of provision a badminton player needs to achieve excellence.

- 1
- 2
- 3 [3]

(e) State **four** forms of competition manipulation that may occur in a sport such as badminton.

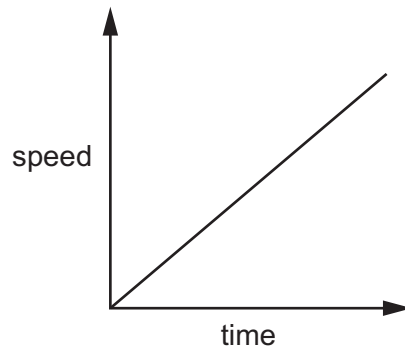
- 1
- 2
- 3
- 4 [4]





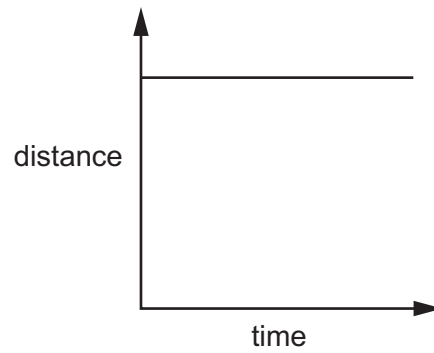
2 (a) Describe the motion of the object in each of the graphs.

(i)



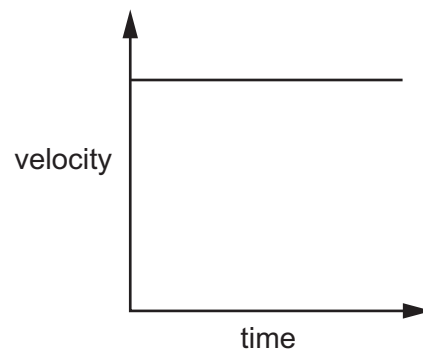
..... [1]

(ii)



..... [1]

(iii)



..... [1]





(b) Describe how the graph in (a)(iii) can be used to determine the displacement of the object.

.....
..... [1]

(c) Velocity is an example of a vector quantity.

State what is meant by a vector quantity.

.....
..... [1]



- [6]

[6]



(b) Explain how advances in the use of the following types of technology may help a field hockey player:

equipment

.....

.....

.....

.....

.....

footwear

.....

.....

.....

.....

.....

software.

.....

.....

.....

.....

.....

[6]



..... [5]

State **three** other respiratory muscles involved in breathing during exercise.

1
2
3 [3]

- 6 (a) The photographs show the performance of a back somersault.



The performer has angular motion during this somersault.

- (i) Explain how angular motion is created by the performer.

.....

 [1]

- (ii) Describe moment of inertia.

.....
 [1]

- (iii) Describe the factors that affect the moment of inertia of the performer during this somersault.

.....

 [2]



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- 1
- 2
- 3
- 4
- 5

[5]



(d) Different types of motivation may be used when learning a somersault.

Suggest an example of each of the following types of motivation:

intrinsic

.....

extrinsic tangible.

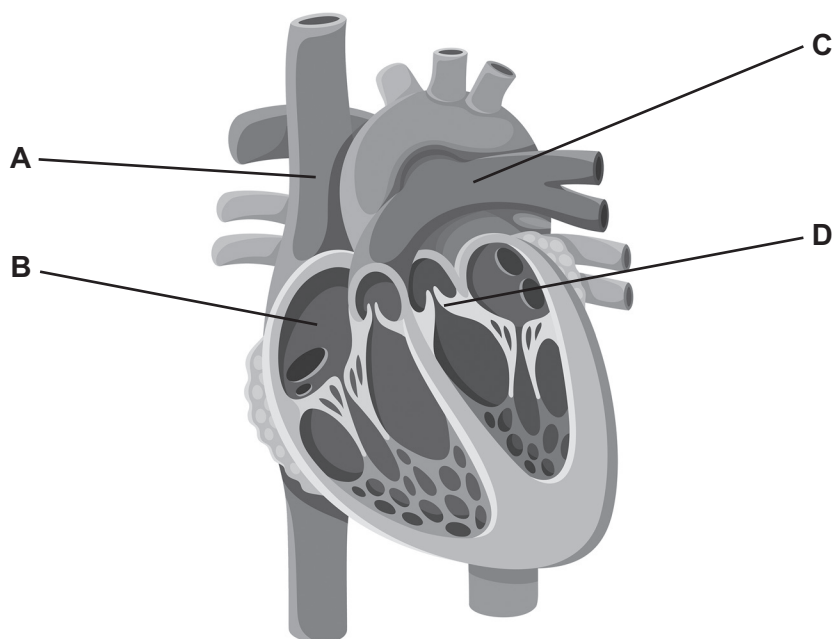
.....

[2]





- 7 (a) The diagram shows features of the heart.



Identify the features of the heart labelled **A** to **D**.

- A**
- B**
- C**
- D** [4]

- (b) Describe a different function for each of the following features of the heart:

myocardium

.....

septum.

..... [2]

- (c) An individual has a resting cardiac output of 5.6 litres per minute and a resting stroke volume of 70 millilitres.

Calculate the individual's resting heart rate.

resting heart rate = beats per minute [1]







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