



Cambridge International AS Level

CANDIDATE NAME



CENTRE NUMBER

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SPORT & PHYSICAL EDUCATION

8386/13

Paper 1 Theory

May/June 2024

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.





1 The photograph shows a physical education lesson.



In physical education, students learn a broad range of movement skills and activities.

(a) Describe **four** other characteristics of physical education.

- 1
- 2
- 3
- 4

[4]

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(b) Explain how schema theory may be used to develop a broad range of movement skills in physical education lessons.

Dotted lines for answer writing, ending with [6] at the bottom right.

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(c) Describe the advantages and disadvantages of using verbal guidance to develop skilled performance in physical education lessons.

advantages

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disadvantages

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[4]

(d) Regular physical education lessons may cause some long-term training effects.

State the effects of long-term training on:

resting heart rate

stroke volume during sub-maximal intensity exercise

heart rate during maximal intensity exercise.

[3]

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2 Tennis and badminton are racket sports that involve a performer striking an object with force.

(a) The shoulder joint is important in racket sports.

(i) State the type of synovial joint at the shoulder.

..... [1]

(ii) State the **two** articulating bones at the shoulder joint.

..... and [1]

(iii) State the main agonist that causes flexion at the shoulder joint.

..... [1]

(b) Newton's second law is the law of acceleration. Newton's third law is the law of reaction.

Describe Newton's second and third laws by applying them to a shot in tennis or badminton.

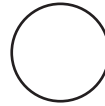
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(c) The diagram represents a tennis ball in flight.

Sketch and label the forces acting on the tennis ball in flight.



direction of motion 

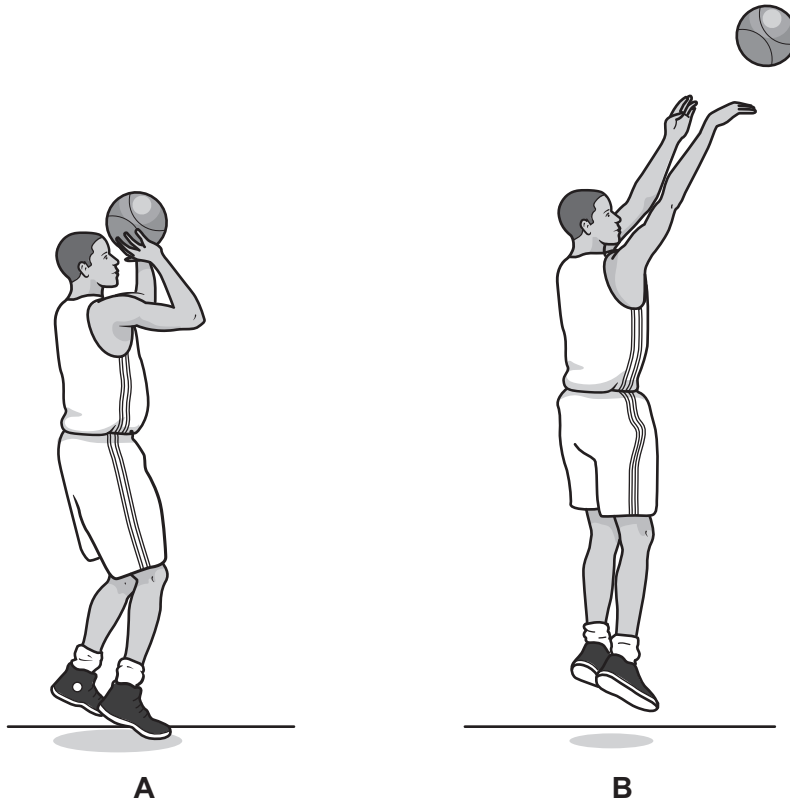
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3 (a) The diagrams show a basketball player taking a shot.



(i) Identify the following at the elbow joint during the movement from **A** to **B**:

type of movement

main agonist

antagonist

type of muscle contraction in the agonist.

[4]

(ii) Outline **three** factors affecting the stability of the basketball player at position **A**.

1

.....

2

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3

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[3]

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(b) Sports such as basketball can be used to develop the values of sport.

State the values of sport.

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[5]

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(c) A basketball coach may use different types of practice during training sessions.

(i) Outline the following types of practice:

part practice

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.....

varied practice.

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[2]

(ii) Describe an example of massed practice and an example of distributed practice from a basketball training session.

massed practice

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distributed practice

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[2]

(iii) Describe the advantages of using massed practice to develop skilled performance in basketball.

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[4]

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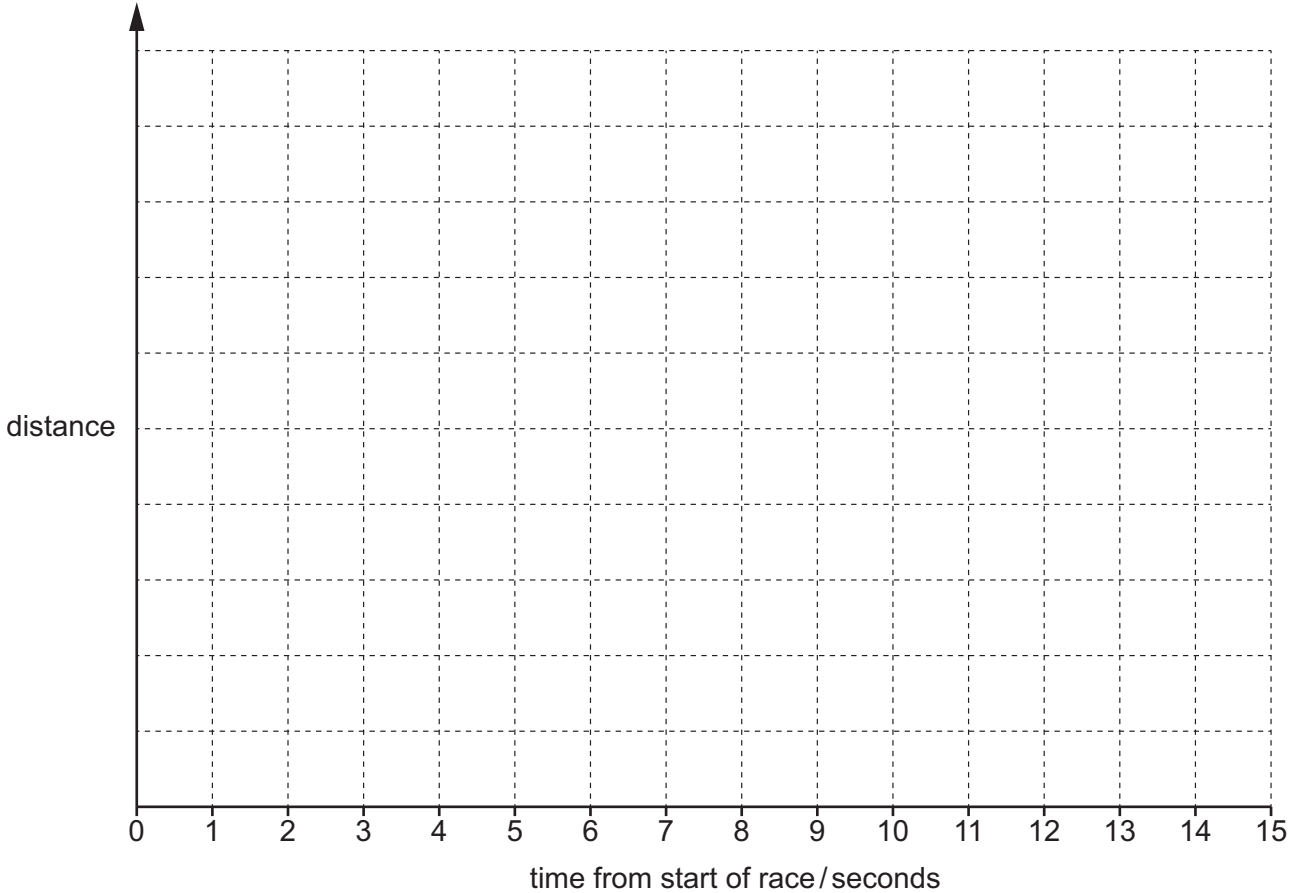




4 (a) Sketch a simplified distance–time graph for a sprinter running in a straight line.

The graph must show the following:

- an increasing speed between 0 and 3 seconds
- a constant speed between 3 and 8 seconds
- a decreasing speed between 8 and 11 seconds
- the sprinter stationary at the end of the race for 3 seconds.



[4]

(b) A 100-metre sprinter has a mass of 90 kilograms. Their average velocity is 8.46 metres per second.

(i) Calculate the sprinter’s average momentum.

Show your working. Give your answer to one decimal place and include appropriate units.

average momentum = [2]

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- (ii) Calculate the time taken to run 100 metres at an average velocity of 8.46 metres per second.

Show your working. Give your answer to two decimal places.

time taken = seconds [2]

- 5 Describe gaseous exchange at the lungs.

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..... [5]



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