A

Surname _____

Forename(s) _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

GCSE

PHYSICAL EDUCATION

Paper 1 The human body and movement in physical activity and sport

8582/1

Wednesday 17 May 2023 Afternoon

Time allowed: 1 hour 15 minutes

[Turn over]

JUN238582101

At the front of this book, write your surname and forename(s), your centre number, your candidate number and add your signature.

MATERIALS

For this paper you must have:

- **a ruler.**

INSTRUCTIONS

- **Use black ink or black ball-point pen. Pencil should only be used for drawing.**
- **Answer ALL questions.**
- **You must answer questions in the spaces provided. Do not write on blank pages.**
- **If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).**

- **Do all rough work in this book. Cross through any work you do not want to be marked.**

INFORMATION

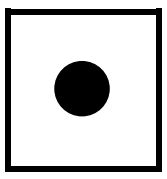
- **The marks for questions are shown in brackets.**
- **The maximum mark for this paper is 78.**
- **Questions should be answered in continuous prose. You will be assessed on your ability to:**
  - **use good English**
  - **organise information clearly**
  - **use specialist vocabulary where appropriate.**

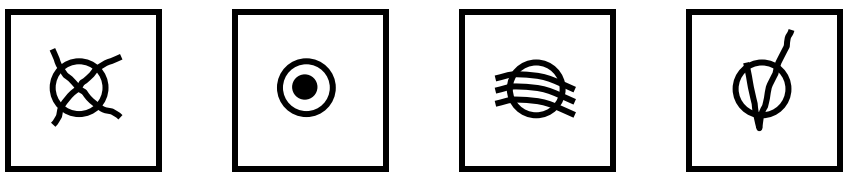
DO NOT TURN OVER UNTIL TOLD TO DO SO

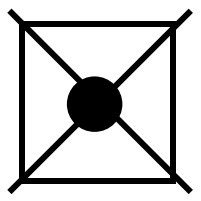
Answer ALL questions.

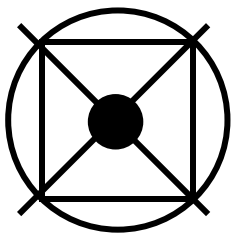
Only ONE answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD 

WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

0 1

Which ONE of these structures attaches muscles to bones? [1 mark]

- ○ **A Cartilage**
- ○ **B Ligaments**
- ○ **C Membranes**
- ○ **D Tendons**

0 2

Which ONE of these describes stroke volume? [1 mark]

○ **A** **The volume of blood in the veins**

○ **B** **The volume of blood pumped by the heart in one minute**

○ **C** **The volume of blood pumped by the heart in one contraction**

○ **D** **The volume of blood within the heart**

0 3

Which ONE of these muscles is found in the leg? [1 mark]

- ○ **A Deltoid**
- ○ **B Gastrocnemius**
- ○ **C Latissimus dorsi**
- ○ **D Rotator cuffs**

[Turn over]

0 4

Lisa is doing light aerobic training to maintain a level of general fitness.

In which ONE of these training seasons is she working in? [1 mark]

- ○ **A Competition**
- ○ **B Post-season**
- ○ **C Pre-season**

0 5

Which ONE of these describes an isometric contraction? [1 mark]

○ **A The muscle expands in size**

○ **B The muscle increases in length**

○ **C The muscle remains the same length**

○ **D The muscle decreases in length**

[Turn over]

0 6

Which ONE of these movements takes place in a frontal plane? [1 mark]

○ **A Bicep curl**

○ **B Discus throw**

○ **C Front somersault**

○ **D Star jump**

6

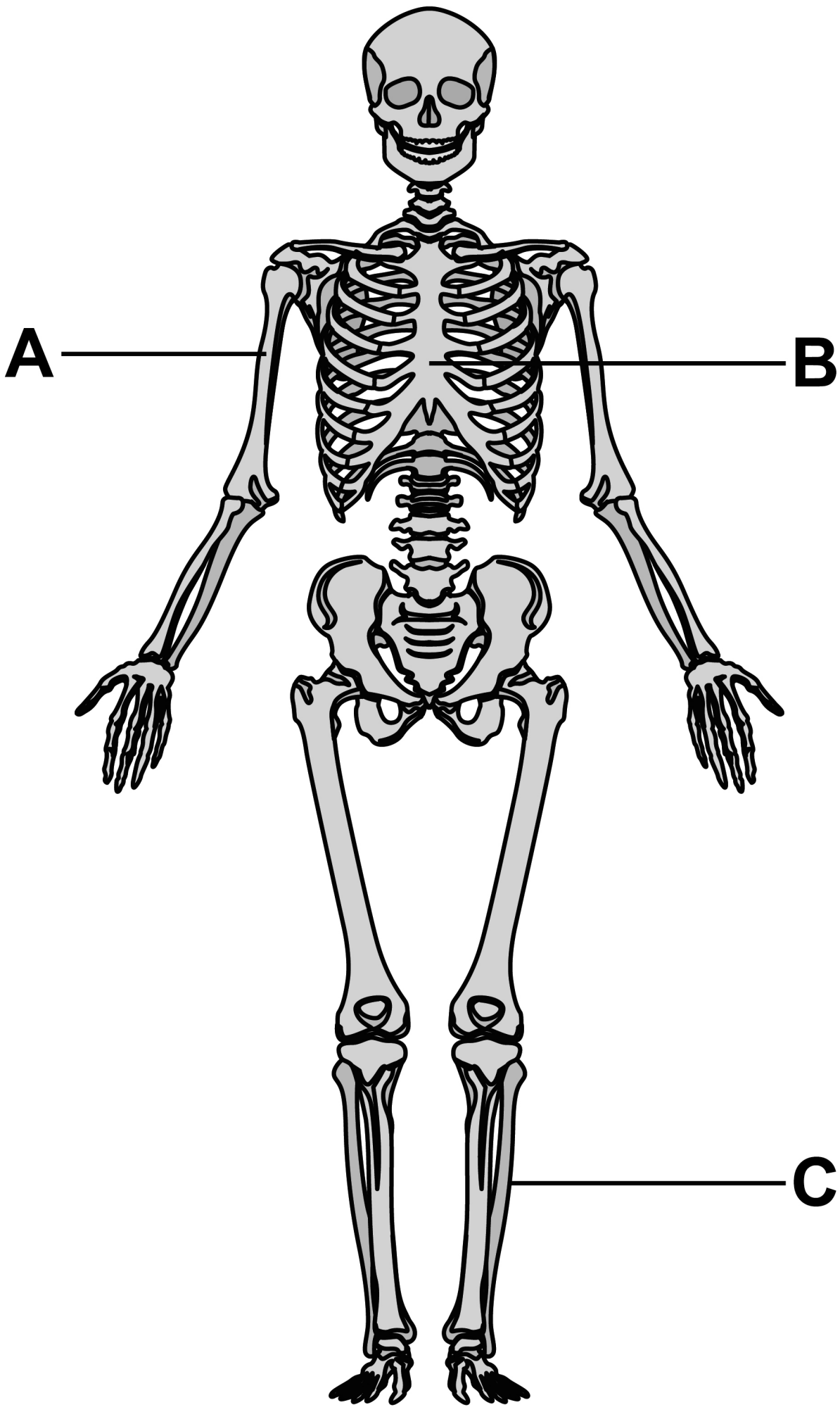
BLANK PAGE

[Turn over]

0 7

FIGURE 1 shows a human skeleton.

FIGURE 1



Identify the bones labelled A, B and C in FIGURE 1, on the opposite page.
[3 marks]

A _____

_____

B _____

_____

C _____

_____

3

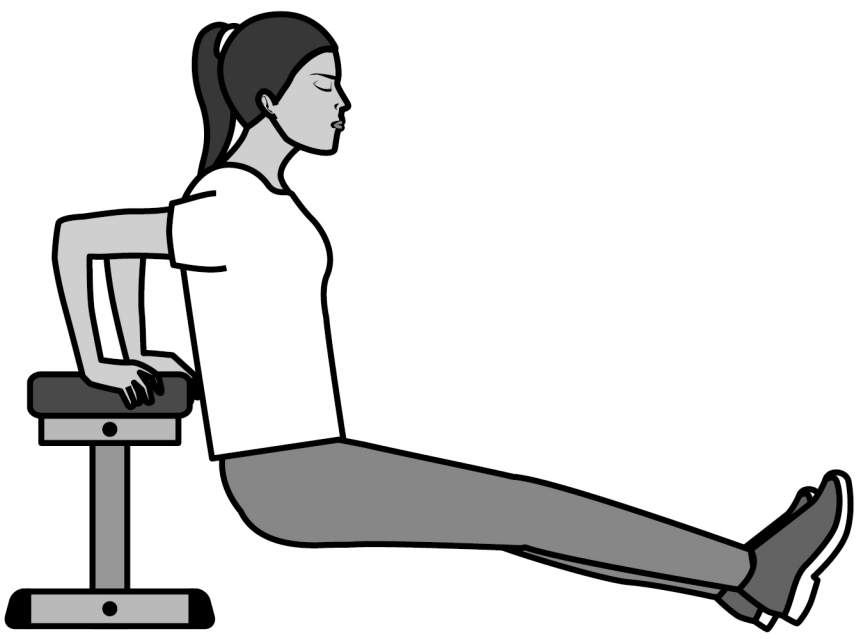
0 8

FIGURE 2 shows an athlete in two different positions (A and B) as the athlete performs a tricep dip.

FIGURE 2

A

B



Use FIGURE 2 to help answer the following questions.

0 8 . 1

Identify the joint action taking place at the ELBOW as the arm moves from A to B. [1 mark]

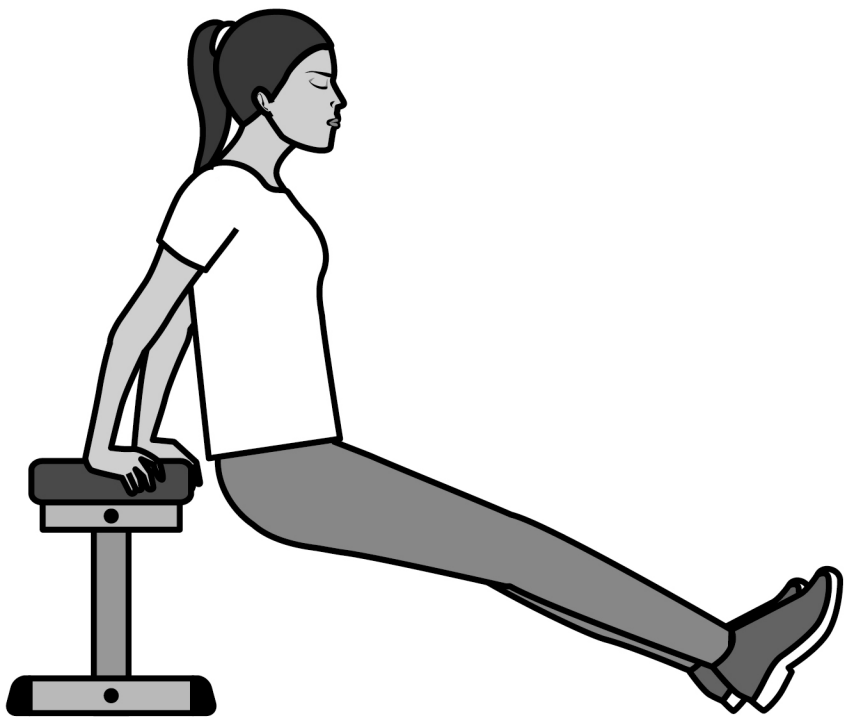
0 8 . 2

Identify the main antagonist at the ELBOW as the arm moves from A to B. [1 mark]

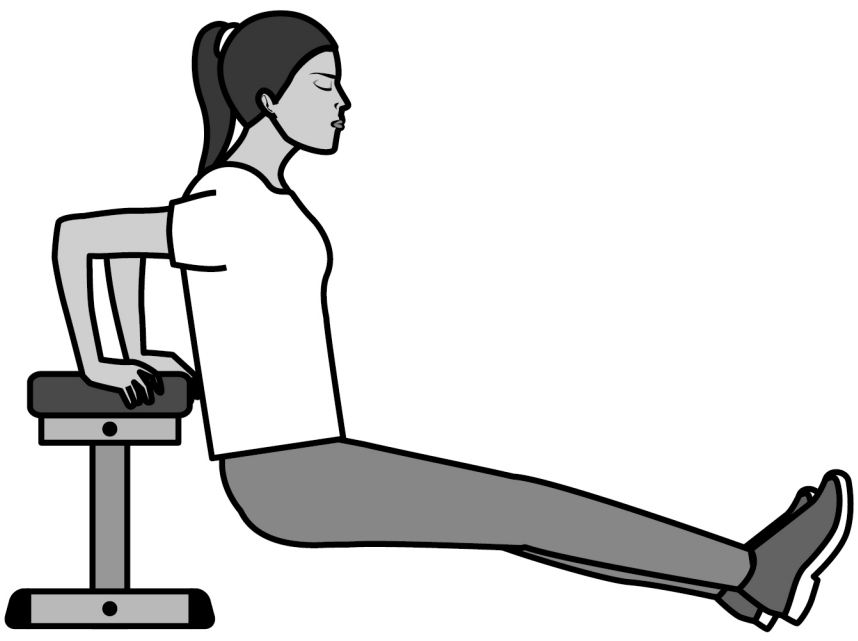
[Turn over]

REPEAT OF FIGURE 2

A



B



0 8 . 3

Identify the type of isotonic muscle contraction that is taking place at the ELBOW as the arm moves from A to B. [1 mark]

3

BLANK PAGE

[Turn over]

0 9

Dynamic strength is required to perform in a 1000m rowing race.

Define ‘dynamic strength’.

Justify why dynamic strength is important in a 1000m rowing race.
[4 marks]

Definition _____

_____

_____

_____

Justification _____

_____

_____

_____

_____

4

1 0 **Chris is an experienced 25-year-old 800m runner.**

TABLE 1, on page 20, shows Chris's heart rate in beats per minute (bpm) at THE START and DURING an 800m race.

[Turn over]

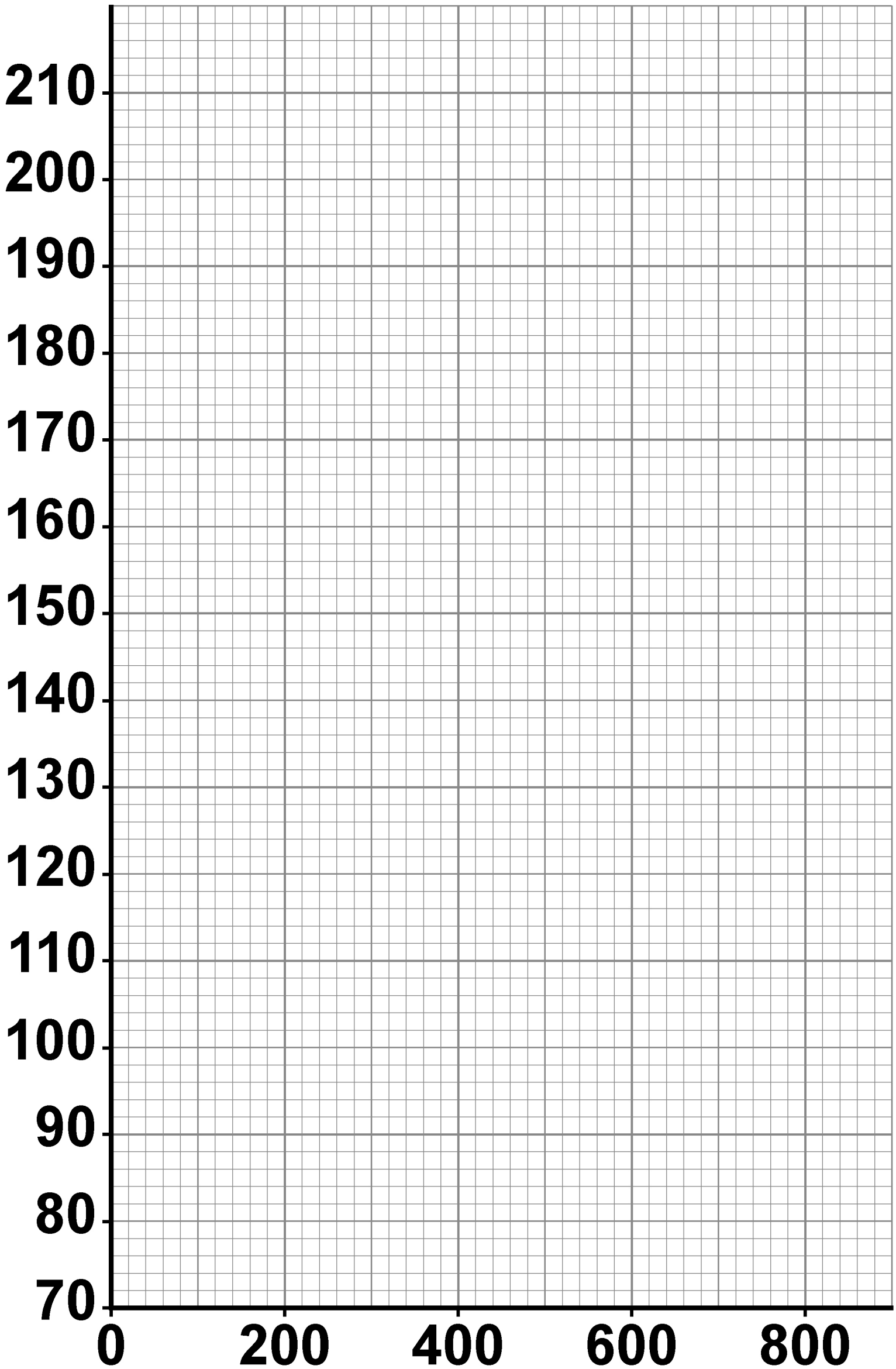
TABLE 1

DISTANCE (m)	HEART RATE (bpm)
0	80
200	130
400	140
600	160
800	200

1 0 . 1

On the opposite page, draw a line graph on the graph paper to show Chris's heart rate at THE START and DURING an 800m race.

Label the axes. [2 marks]


210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
0
200
400
600
800

[Turn over]

1 0 . 2

Chris has a resting heart rate of 50 beats per minute (bpm).

Explain why Chris's heart rate is higher at the start of the race than his resting heart rate. [2 marks]

1 0 . 3

Explain THREE factors that can affect Chris's speed of recovery. [3 marks]

Factor 1

Factor 2

Factor 3

1 0 . 4

Chris's breathing rate will change during the race.

Define tidal volume.

Explain the changes that occur to Chris's tidal volume during the 800m race.
[3 marks]

Definition _____

_____

_____

_____

Explanation _____

_____

_____

_____

_____

_____

[Turn over]

10

1	1

Describe the pathway of blood from when it enters the heart on the right side to where it leaves the heart on the left side. [5 marks]

[Turn over]

5

1	2

EPOC is excess post-exercise oxygen consumption.

Explain how EPOC is caused.

Give a sporting example when EPOC is likely to occur. [4 marks]

Cause _____

Example

1 3 . 1

Define abduction.

Use an example of a sporting action in your answer. [2 marks]

Definition

Example

1 3 . 2

Name the type of joint where abduction can take place. [1 mark]

_____

_____

_____

[Turn over]

3

1	4

Delayed onset of muscle soreness (DOMS) can occur after vigorous exercise.

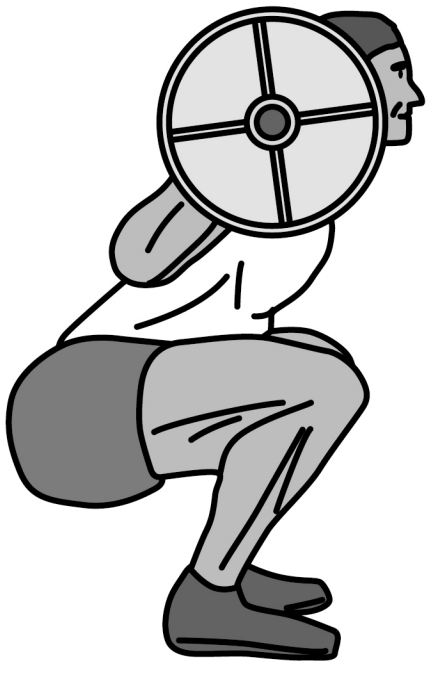
Evaluate the use of ice baths to prevent DOMS. [4 marks]

[Turn over]

1 5

FIGURE 3 shows a person performing a back squat.

FIGURE 3



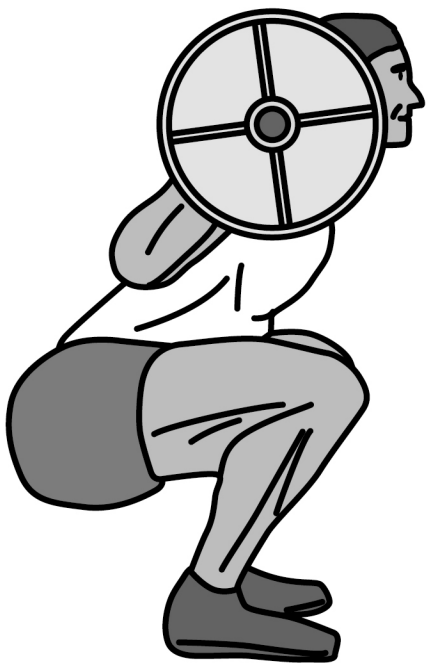
1 5 . 1

Identify the class of lever system used at the KNEE whilst performing the back squat in FIGURE 3. [1 mark]

15.2

Draw a fully labelled diagram to show the class of lever identified in QUESTION 15.1. [2 marks]

REPEAT OF FIGURE 3



1 5 . 3

Explain why the lever in FIGURE 3 has a low mechanical advantage. [2 marks]

[Turn over]

5

1 6 . 1

A weightlifter must calculate their workload intensity correctly.

State how a weightlifter would calculate their workload intensity. [1 mark]

1 6 . 2

Describe how a weightlifter would calculate their workload intensity if they were trying to improve their muscular endurance. [2 marks]

1 6 . 3

Discuss whether the One Rep Max Test is a relevant test for a gymnast.
[4 marks]

[Turn over]

7

4 1

1	7

Poppy is a 100 metre sprinter.

1	7	.	1

Speed is important to Poppy.

Name and describe a test that measures speed. [4 marks]

Test _____

_____

_____

_____

Description _____

_____

_____

_____

_____

[Turn over]

17.2

Define reaction time.

Outline one reason why reaction time is important to Poppy. [2 marks]

Definition

Reason

6

1 8

Describe the process of high altitude training.

Use a sporting example in your answer.
[3 marks]

3

1	9

Evaluate the importance of agility AND flexibility in a 200m freestyle swimming race. [6 marks]

[Turn over]

6

2	0

Using the principles of training, analyse how the long-term benefits of training are important to a games player.
[9 marks]

50

[Turn over]

[Turn over]

END OF QUESTIONS

9

Additional page, if required.

Write the question numbers in the left-hand margin.

Additional page, if required.

Write the question numbers in the left-hand margin.

Additional page, if required.

Write the question numbers in the left-hand margin.

BLANK PAGE

For Examiner's Use	
Question	Mark
1 to 6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
TOTAL	