



Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

GCSE

PHYSICAL EDUCATION

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

8582/1

Wednesday 15 May 2019 Morning

Time allowed: 1 hour 15 minutes

**At the top of the page, write your surname
and other names, your centre number,
your candidate number and add your
signature.**

[Turn over]



For this paper you may use:

- **a calculator.**

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.**
- **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

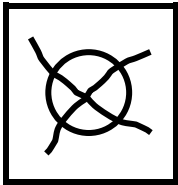
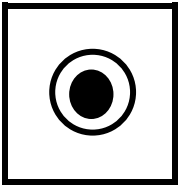
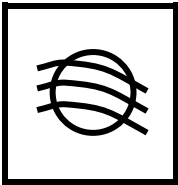
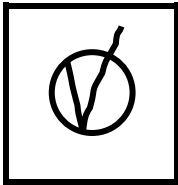


Answer ALL questions.

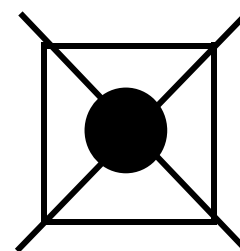
Only ONE answer per question is allowed.

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

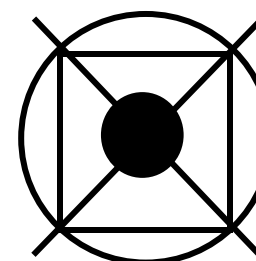
CORRECT METHOD 

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.



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Which ONE of these describes the transverse axis of rotation? [1 mark]

A The axis that passes horizontally through the body from back to front

B The axis that passes horizontally through the body from left to right

C The axis that passes vertically from the top of the body to the bottom

[Turn over]

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1



0	2
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Which ONE of these uses an isometric contraction? [1 mark]

A A burpee

B A plank

C A star jump

D A tricep dip

<hr/>
1

0	3
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Which ONE of these best describes pre-season training? [1 mark]

A When performers focus on their tactics

B When performers improve their fitness

C When performers play most of their games

D When performers rest and recuperate

[Turn over]

1



0	4
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**In which ONE of these activities is reaction time most important?
[1 mark]**

A Golf

B Gymnastics

C Horse riding

D Table tennis

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1



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[Turn over]



0 5 . 1

Alex is a professional tennis player and is using weight training to improve his strength.

Outline TWO ways in which Alex can use his one rep max to help improve his maximal strength. [2 marks]

1 _____

2 _____

05.2

Which TWO of the following bones are found at Alex's knee? [2 marks]

A Femur

B Humerus

C Radius

D Tibia

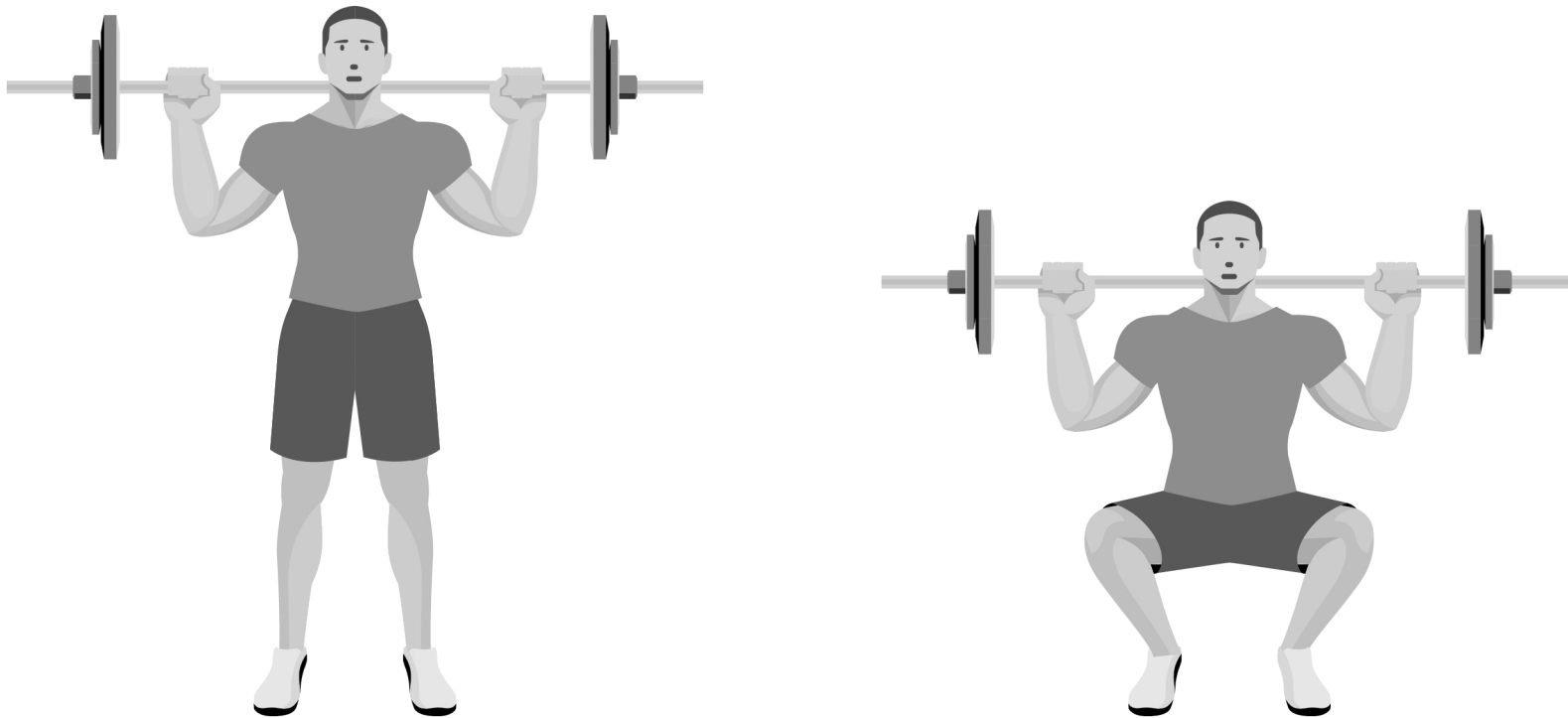
E Ulna

[Turn over]



In order to improve the strength in his legs, Alex performs some squats as shown in FIGURE 1.

FIGURE 1



0 5 . 3

Identify the JOINT ACTION at the knee as Alex performs the downward phase of the squat. [1 mark]

0	5	.	4
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Identify the MAIN AGONIST at the knee as Alex performs the downward phase of the squat. [1 mark]

0	5	.	5
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Identify the MUSCULAR CONTRACTION at the knee as Alex performs the downward phase of the squat. [1 mark]

[Turn over]



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06.1

Veins form part of the circulatory system.

**State TWO structural features of veins.
[2 marks]**

1 _____

2 _____

[Turn over]

TABLE 1 shows the redistribution of blood flow during rest and maximal exercise.

TABLE 1

DESTINATION	REST	MAXIMAL EXERCISE
Skeletal muscle	20%	88%
Brain	15%	3%
Heart	5%	4%
Skin	10%	3%
Liver and intestines	30%	1%
Kidneys	20%	1%

0	6	.	2
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At rest the blood flow to the skeletal muscle is 20%. At rest the blood flow to the other organs is 80%.

Using the data in TABLE 1, calculate the blood flow to the other organs at maximal exercise. [1 mark]

[Turn over]

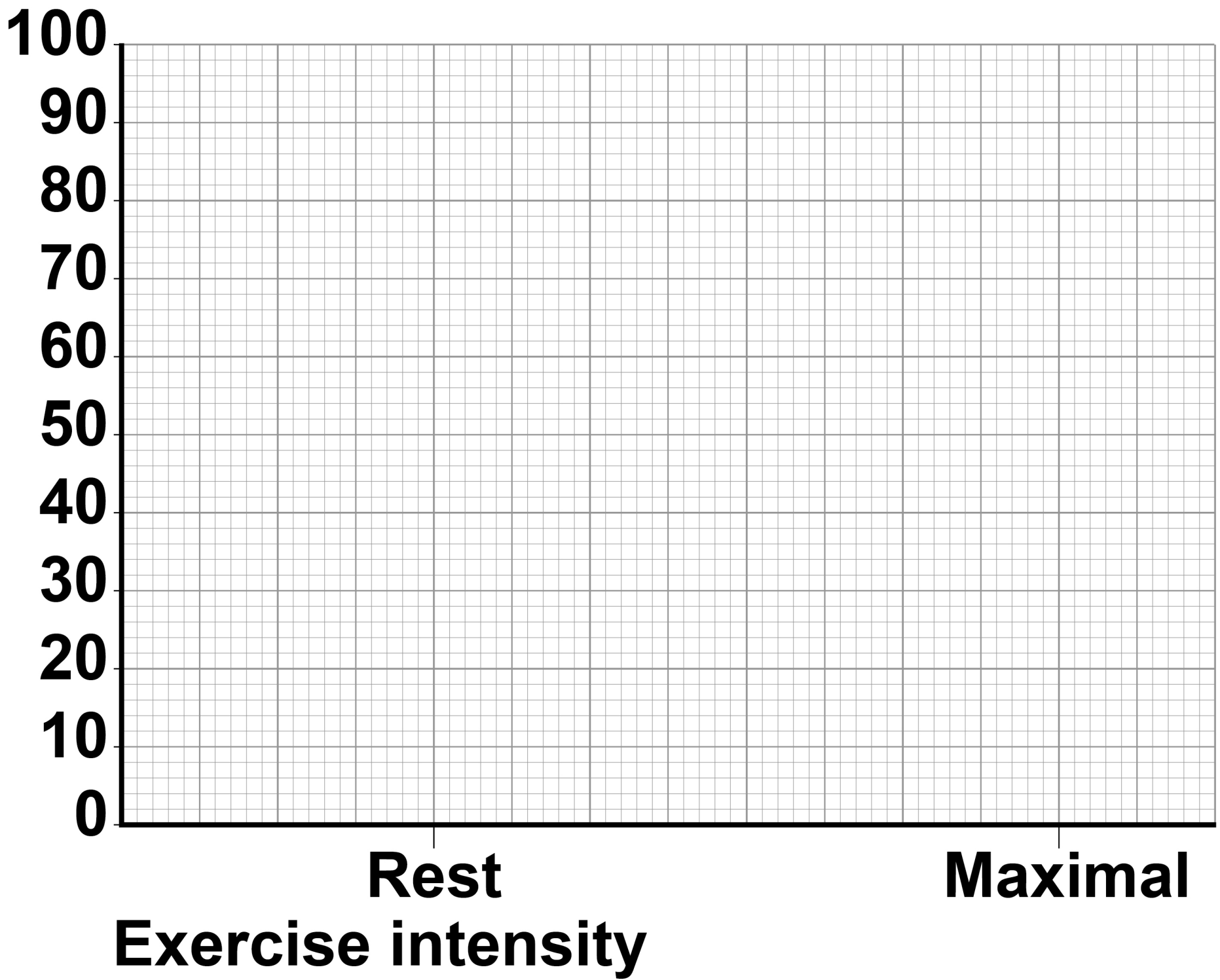
06.3

Using the data in TABLE 1, on page 18, plot and label the lines on the graph paper, on the opposite page, for the following:

- the skeletal muscle at rest and maximal**
- all other organs combined at rest and maximal.**

[2 marks]

**Blood
flow**



[Turn over]

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06.4

Explain why the redistribution of blood during exercise is necessary. [2 marks]

[Turn over]

7

07.1

Naveena regularly participates in hockey matches for her school and local club. She requires good coordination to compete successfully.

What is coordination? [1 mark]

07.2

Why is it important for a hockey player to have good coordination? [1 mark]



07.4

Naveena experiences excess post-exercise oxygen consumption (EPOC) after sprinting throughout the game.

**State what happens to Naveena's breathing immediately after she sprints.
[1 mark]**

07.5

State THREE benefits that Naveena will experience from cooling down immediately after the game. [3 marks]

1 _____

2 _____

3 _____

[Turn over]

8



08.1

Where does gaseous exchange take place? [1 mark]

08.2

Explain the process of gaseous exchange. [4 marks]

[Turn over]

<hr/>
5

09.1

Movement and protection are two functions of the skeleton.

Name THREE other functions. [3 marks]

1 _____

2 _____

3 _____

09.2

The shape and type of bones determine the amount of movement that is possible.

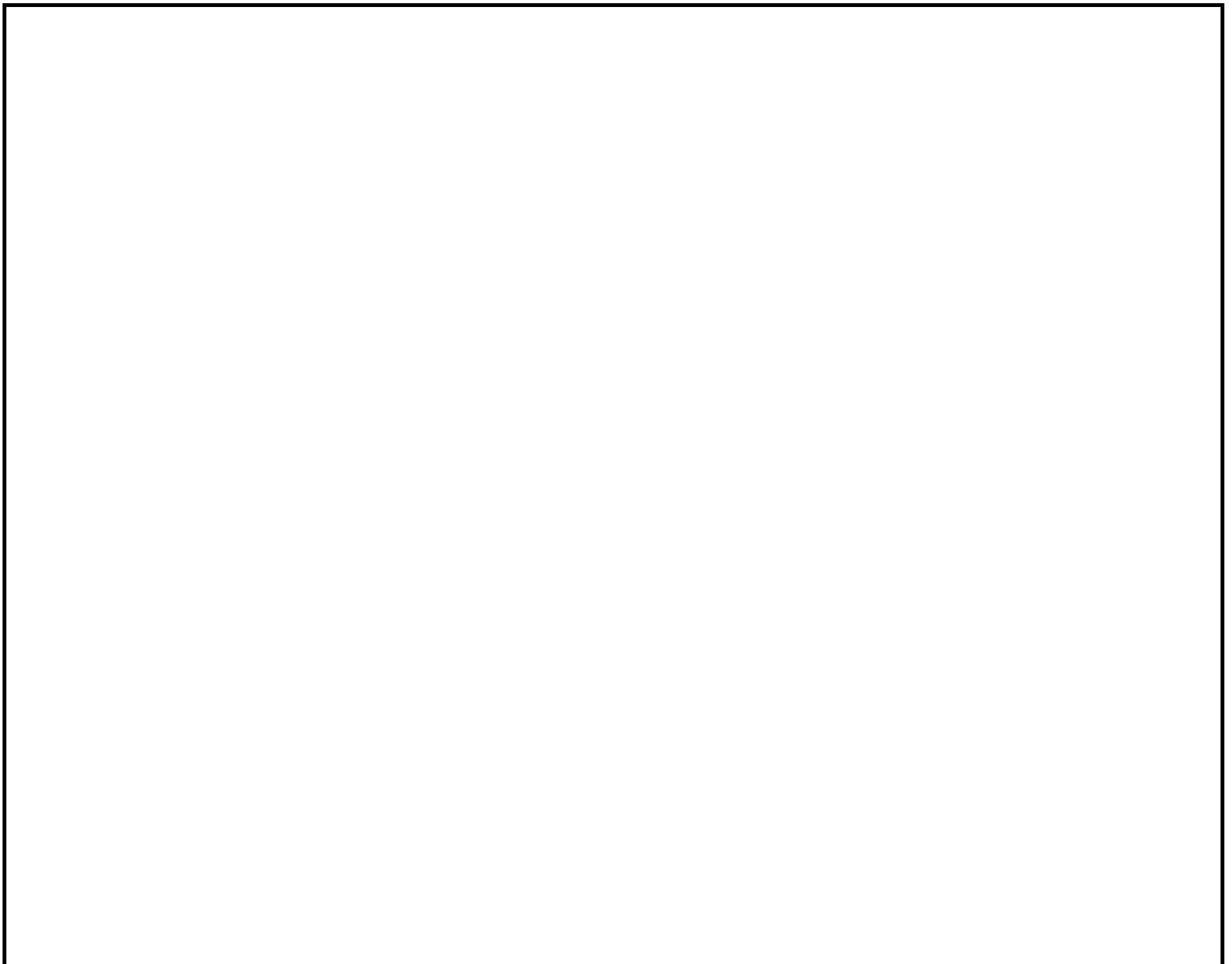
Explain the role of long bones during a game of badminton. [3 marks]

1	0	.	1
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Greg Rutherford won a bronze medal in the long jump at the 2016 Olympic Games in Rio de Janeiro.

In the take-off phase of the long jump, Greg Rutherford uses a second class lever at the ankle.

Draw a linear diagram of a second class lever. [1 mark]



10.2

Explain why a second class lever system has a high mechanical advantage. [2 marks]

10.3

Identify TWO types of movement that occur at the ankle. [2 marks]

1 _____

2 _____

[Turn over]



10.5

Greg will need to apply the principles of training to his performance programme to enable him to be a more effective long jumper.

**How can Greg use specificity and progressive overload to improve his level of performance in the long jump?
[2 marks]**

Specificity _____

Progressive overload _____

1 1

A sports person may be fit, but not healthy.

**Use examples to explain this statement.
[2 marks]**

[Turn over]

2

12.1

Zoe is a 16-year-old girl who plays football.

Which ONE of these is Zoe's maximum heart rate? [1 mark]

A 192

B 198

C 204

D 210

1 2 . 2

Explain THREE ways in which an increase in explosive strength may improve Zoe's performance in football. [3 marks]

1 _____

2 _____

3 _____

[Turn over]



1 2 . 3

What is Fartlek training? [1 mark]

1 2 . 4

Discuss whether Fartlek training is an effective method of training for Zoe. [4 marks]

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1 2 . 5

Outline ONE way that Zoe's skeleton protects her vital organs during a game of football. [1 mark]

[Turn over]

10

1	3
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Gary is a 44-year-old man who has recently decided to stop competing in basketball. He has suffered a number of injuries due to the intensive nature of the game. Gary has decided to take up road cycling in order to stay active. He plans to take part in competitions and has started a programme of continuous training to help him improve his performance in road cycling.

Evaluate the appropriateness of continuous training for Gary. [9 marks]



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For Examiner's Use	
Question	Mark
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TOTAL	

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