

**Paper Reference(s) 4HB1/02**  
**Pearson Edexcel International GCSE (9–1)**

**Human Biology**

**UNIT: 4HB1**

**PAPER: 02**

**Wednesday 14 June 2023 – Morning**

**Diagram Booklet**

**In the boxes below, write your name, centre number and candidate number.**

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

## **INSTRUCTIONS**

**There may be spare copies of some diagrams in case you need them.**

**THIS DIAGRAM BOOKLET MUST BE  
RETURNED WITH THE QUESTION PAPER  
AT THE END OF THE EXAMINATION.**

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## Question 1

<b>Description</b>	<b>Structure</b>
<b>produces sperm</b>	
<b>site of fertilisation</b>	
<b>site where sperm is deposited during intercourse</b>	
<b>place where zygote implants</b>	
<b>tube that carries sperm and urine</b>	
<b>produces the fluid part of semen</b>	

## Question 2

5

	<b>Mass per 100 g of yoghurt</b>	<b>Mass per 85 g pot</b>
<b>fat</b>	<b>2.7 g</b>	<b>2.3 g</b>
<b>carbohydrate</b>	<b>12.6 g</b>	<b>10.7 g</b>
<b>protein</b>	<b>6.1 g</b>	
<b>calcium</b>	<b>149 mg</b>	<b>127 mg</b>
<b>vitamin D</b>	<b>0.9 <math>\mu</math>g</b>	<b>0.8 <math>\mu</math>g</b>

### Question 3

**Diabetes is a very common condition that affects approximately five million people in the United Kingdom. Of these five million people, one person in four has the condition but is not aware that they have it. As a result, many people are at risk of high blood sugar levels.** 5

**There are two types of diabetes, Type 1 and Type 2. Type 2 diabetes is the cause of 90% of all cases of diabetes. This type is the result of the body not producing enough insulin or the body not reacting to the insulin.** 10

**Diabetes can cause damage to blood vessels and affect the level of fluid in the body. Some people with the condition develop problems with their eyesight and hearing.** 15

**(continued on the next page)**

**Turn over**

**Question 3 continued.**

**Perhaps the most common symptoms of diabetes are passing more urine, a feeling of tiredness and wounds taking longer to heal than normal.** 20

**A quick blood test can be taken to show whether someone has the condition. Early diagnosis is important as diabetes increases the risks of some complications such as strokes and heart disease.** 25

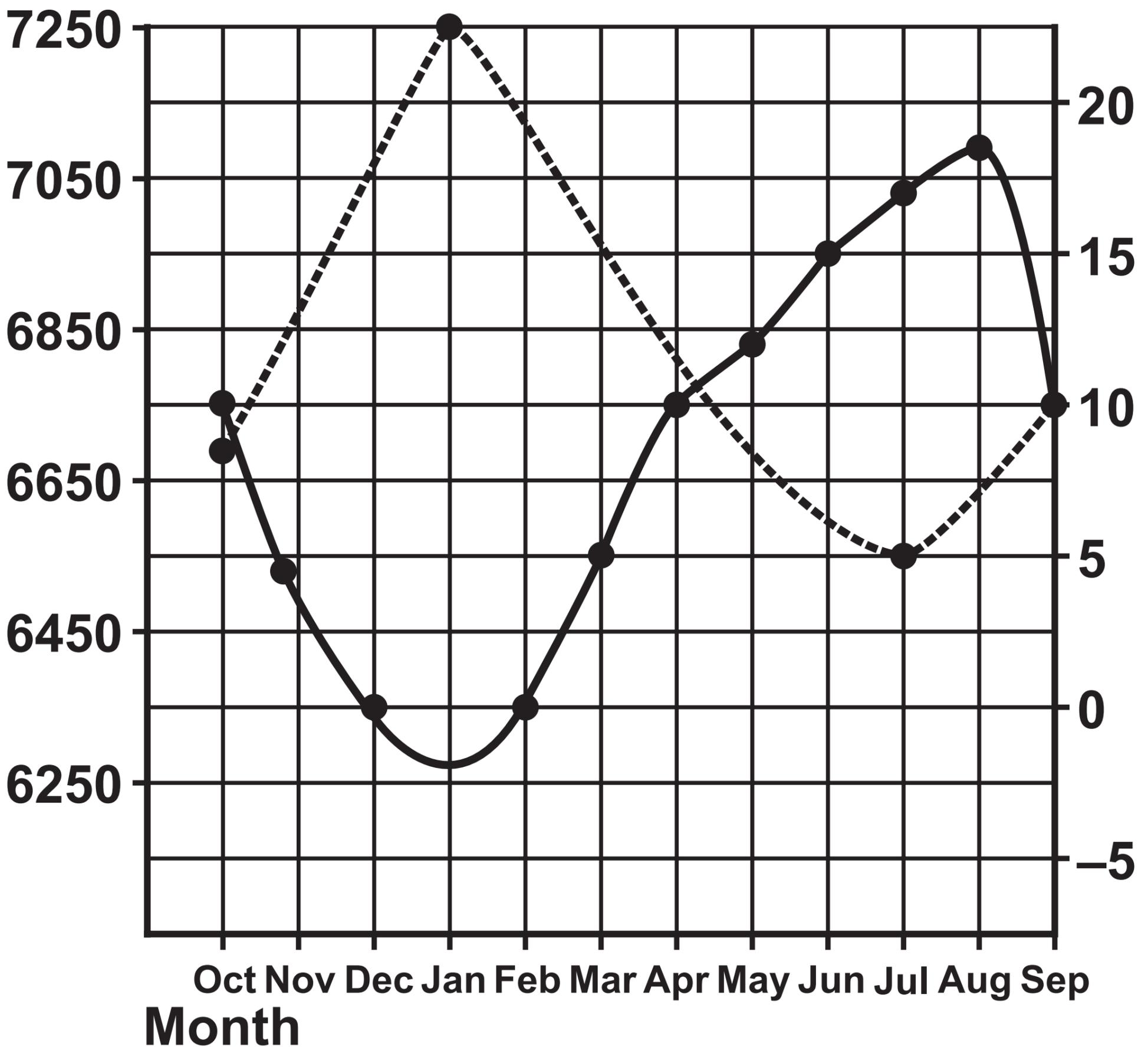
## Question 4(b)

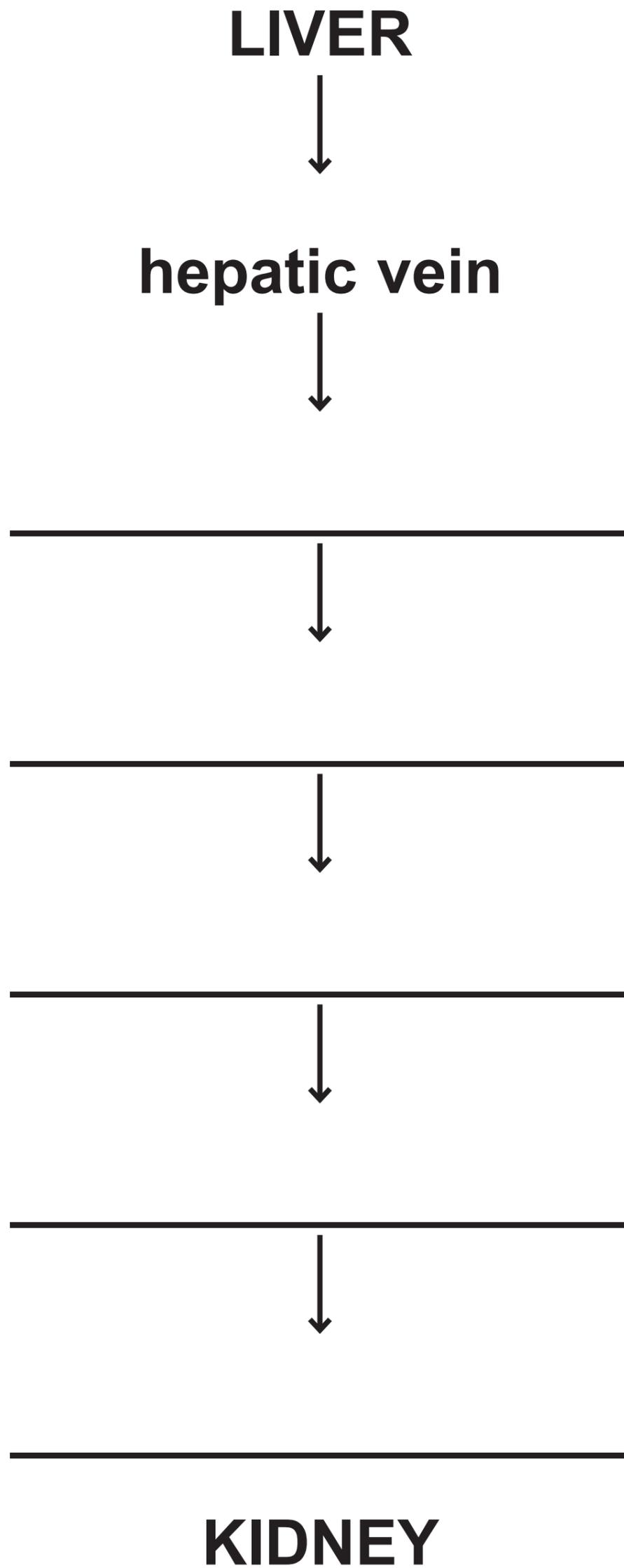
## KEY

- external temperature  
- - -●- - - metabolic rate (MR)

MR in  
kJ per day

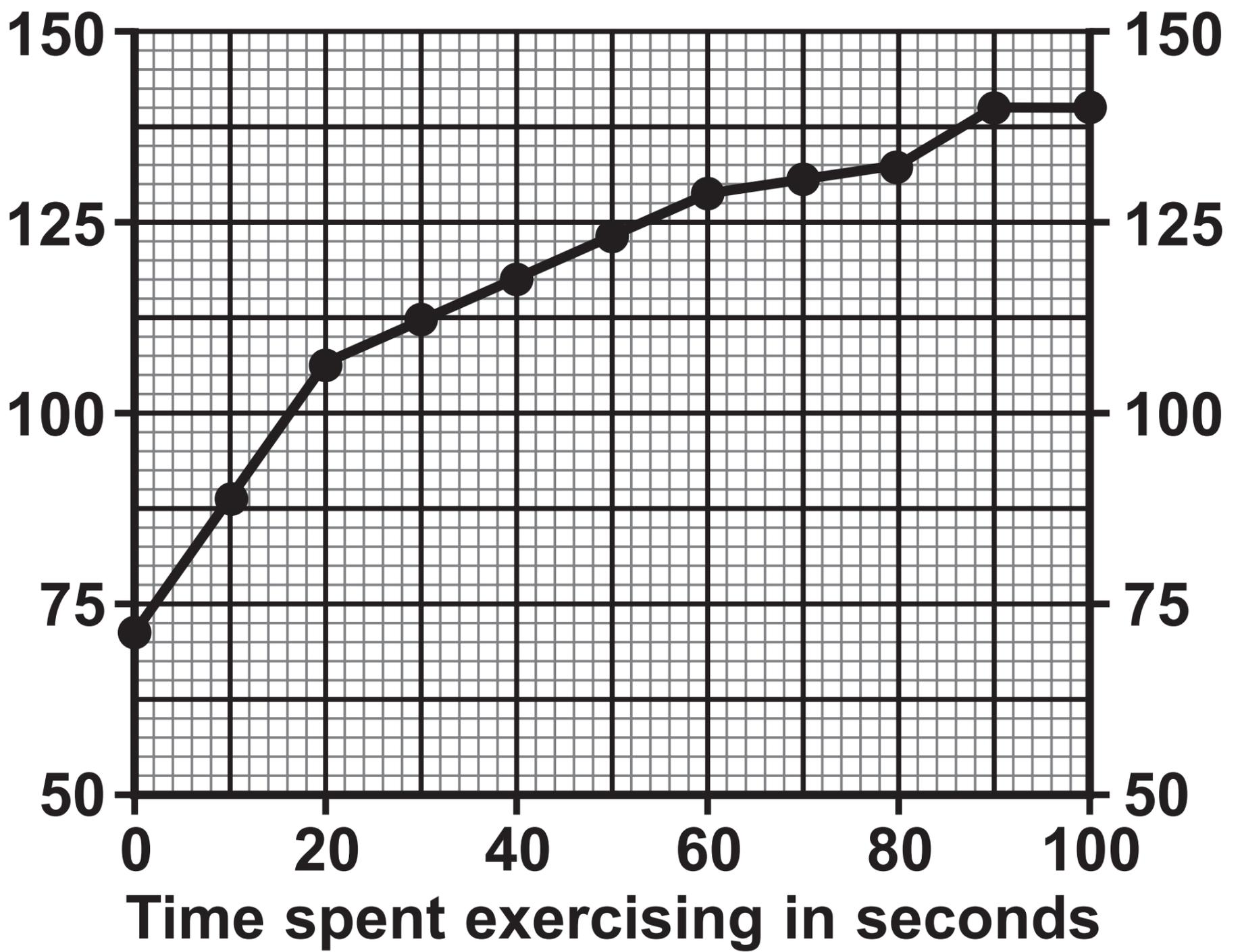
External  
temperature in °C

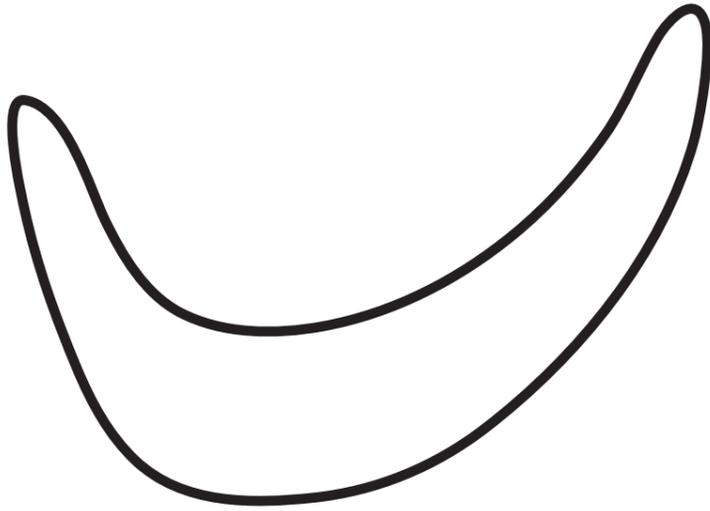


**Question 5(a)**

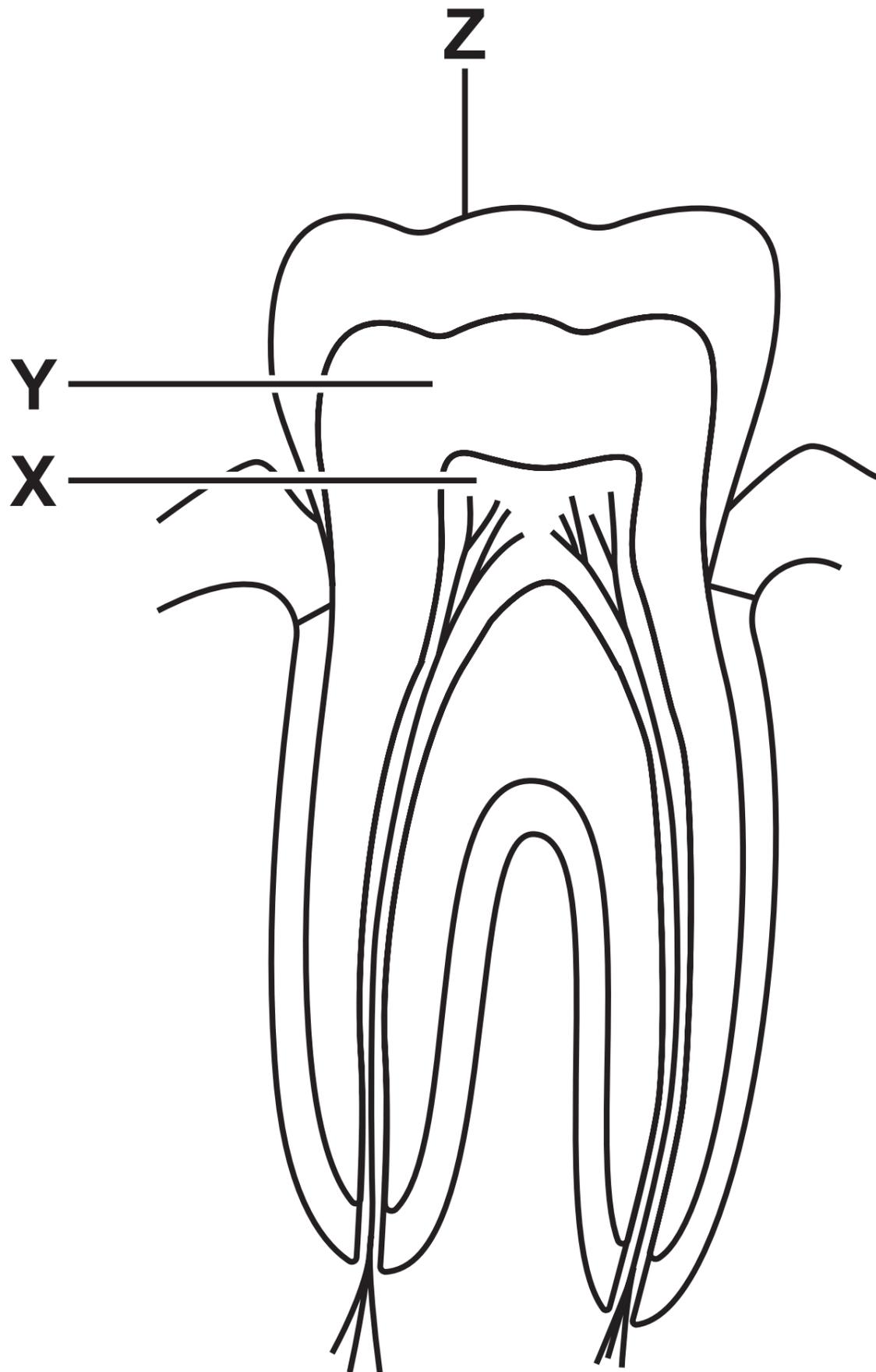
## Question 5(b)

Pulse rate in beats per minute



**Question 6(a)(ii)**

# Question 7



## Question 1

<b>Description</b>	<b>Structure</b>
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<b>place where zygote implants</b>	
<b>tube that carries sperm and urine</b>	
<b>produces the fluid part of semen</b>	

Question 5(a)

