

0 5

A person with Type 1 diabetes cannot make enough insulin.

0 5 . 1

Which organ makes insulin?

[1 mark]

Tick **one** box.

Adrenal gland

Pancreas

Pituitary gland

Thyroid

0 5 . 2

A person with Type 1 diabetes can control the concentration of glucose in the blood by injecting insulin.

Complete the sentences.

[2 marks]

Choose answers from the box.

DNA	glycogen	kidney
liver	protein	skin

Insulin acts on an organ called the _____.

This organ then takes in excess glucose from the blood and changes the glucose into _____.

0 5 . 3

Insulin cannot be taken as a tablet. This is because insulin is a type of protein.

What would happen to the insulin in the tablet if it reached the stomach?

[1 mark]

Turn over ►



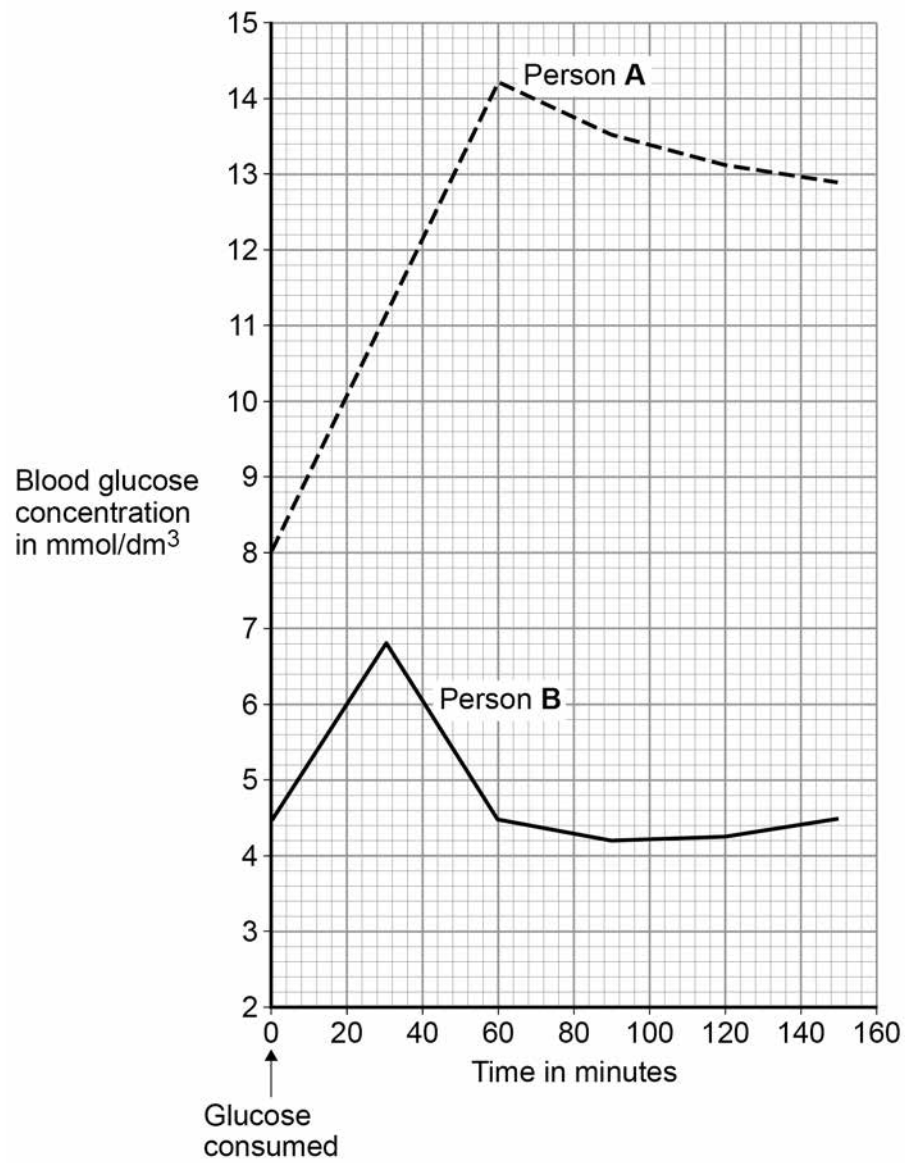
Two people each drank the same volume of a glucose drink.

Person **A** has Type 1 diabetes.

Person **B** does **not** have diabetes.

Figure 6 shows how the concentration of glucose in their blood changed.

Figure 6



0 5 . 4

How much higher was the **highest** concentration of glucose in the blood of person **A** than the **highest** concentration in person **B**?

Use information from **Figure 6**.

[2 marks]

Answer = _____ mmol/dm³

0 5 . 5

Describe **one** other way that the results for person **A** were different from the results for person **B**.

Use information from **Figure 6**.

[1 mark]

Question 5 continues on the next page

Turn over ►

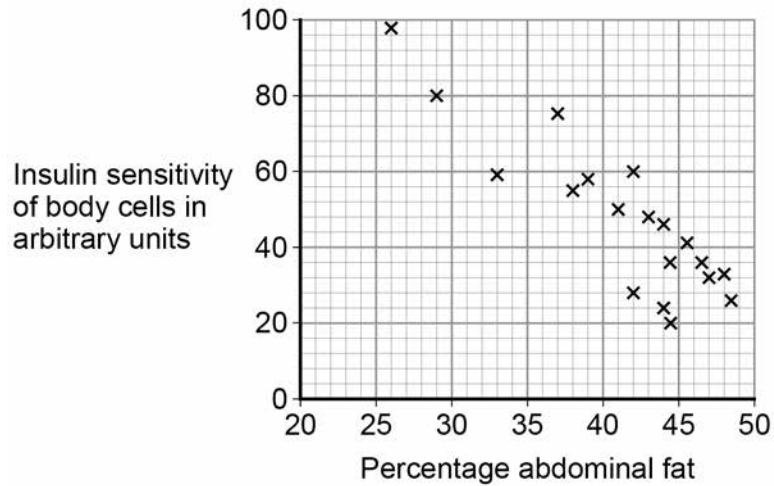


Type 2 diabetes is another form of diabetes. Type 2 diabetes is common in obese people.

People with Type 2 diabetes make enough insulin, but still cannot control their blood glucose concentration. This is because the body cells are not sensitive to the insulin.

Figure 7 shows information about abdominal fat and insulin sensitivity in body cells.

Figure 7



0 5 . 6

What type of relationship is shown in **Figure 7**?

[1 mark]

Tick **one** box.

A negative correlation

No correlation

A positive correlation

0 5 . 7

A person is at risk of developing Type 2 diabetes.

Suggest **two** ways the person could lower the chance of developing Type 2 diabetes.

[2 marks]

1

2

10



Question	Answers	Extra information	Mark	AO / Spec. Ref.
05.1	pancreas		1	AO1 4.5.3.2
05.2	liver glycogen	in this order	1 1	AO1 4.5.3.2
05.3	would be digested / broken down (by enzymes / protease / pepsin / acid or to amino acids)	allow denatured (by acid)	1	AO2 4.2.2.1 4.5.3.2
05.4	use of 14.2 and 6.8 7.4	an answer of 7.4 scores 2 marks allow an answer of 7.2 or 7.3 (using 14.1 and / or 6.9) for 1 mark	1 1	AO2 4.5.3.2 AO3 4.5.3.2
05.5	any one from: <ul style="list-style-type: none"> • (person A's) results are higher • (A) increases for a longer time or peaks later • (A) takes longer to decrease or takes longer to return to normal 	allow converse comparisons with person B as the subject ignore A peaks at a higher level than B allow other correct comparisons allow a description using pairs of figures from graph at a given time	1	AO2 4.5.3.2

Question	Answers	Extra information	Mark	AO / Spec. Ref.
05.6	a negative correlation		1	AO2 4.5.3.2
05.7	less carbohydrate / sugar / fat in diet or lose weight or maintain a healthy weight	allow go on a diet allow eat less allow balanced / healthy diet ignore diet unqualified	1	AO1 4.5.3.2
	(more) exercise	allow examples of exercise	1	
Total			10	