0 7 After a meal rich in carbohydrates, the concentration of glucose in the small intestine changes.

Table 3 shows the concentration of glucose at different distances along the small intestine.

Table 3

Distance along the small intestine in cm	Concentration of glucose in mol dm^{-3}
100	50
300	500
500	250
700	0

0 7 . 1 At what distance along the small intestine is the glucose concentration highest?

[1 mark]

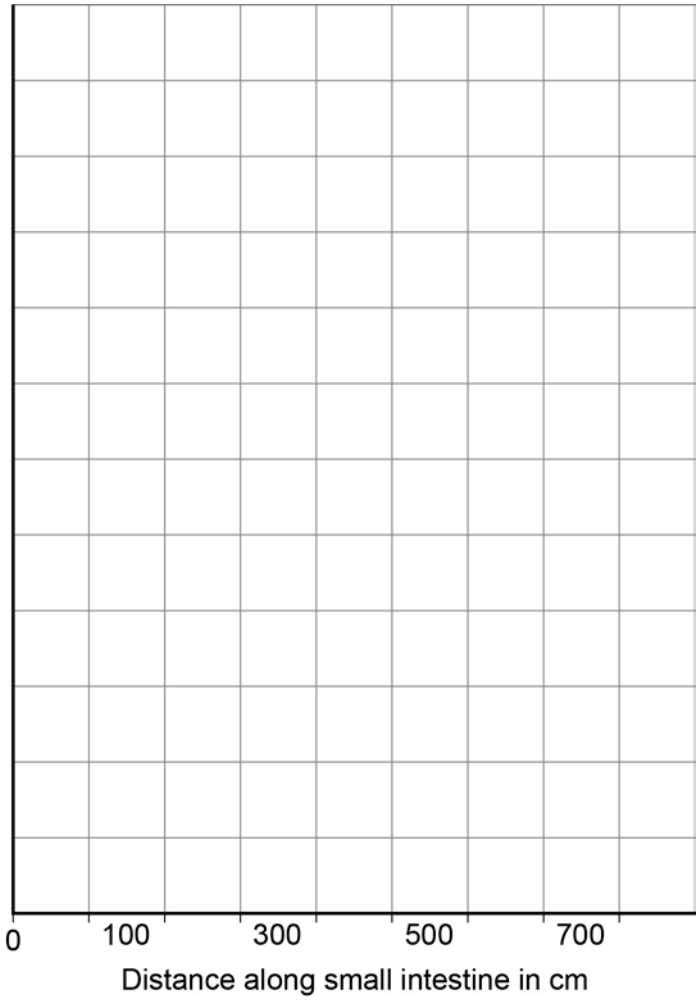
_____ cm

0 7 . 2 Use the data in **Table 3** to plot a bar chart on **Figure 11**.

- Label the *y*-axis.
- Choose a suitable scale.

[4 marks]

Figure 11



Question 7 continues on the next page

Look at **Figure 11** on **page 27**.

0 7 . 3 Describe how the concentration of glucose changes as distance increases along the small intestine.

[2 marks]

0 7 . 4 Explain why the concentration of glucose in the small intestine changes between 100 cm and 300 cm.

[2 marks]

0 7 . 5 Explain why the concentration of glucose in the small intestine changes between 300 cm and 700 cm.

[3 marks]

Turn over for the next question

Question 7

Question	Answers	Extra information	Mark	AO / Spec. Ref.
07.1	300		1	AO2/1 4.2.2.1
07.2	suitable scale on *y*-axis		1	AO2/2 4.2.2.1
	label *y*-axis		1	AO2/2 4.2.2.1
	4 bars drawn correctly	allow **1** mark for 3 correct bars	2	AO2/2 4.2.2.1
07.3	increases from 50 to 500		1	AO3/1a 4.2.2.1
	then decreases from 500 to 0		1	AO3/1a 4.2.2.1
07.4	carbohydrates broken down / digested into sugars		1	AO3/2b 4.2.2.1
	broken down by carbohydrase or amylase		1	AO3/2b 4.2.2.1
07.5	absorption of glucose		1	AO3/2b 4.2.2.1
	into blood		1	AO3/2b 4.2.2.1
	by active transport	allow diffusion	1	AO3/2b 4.1.3.3
Total			**12**	