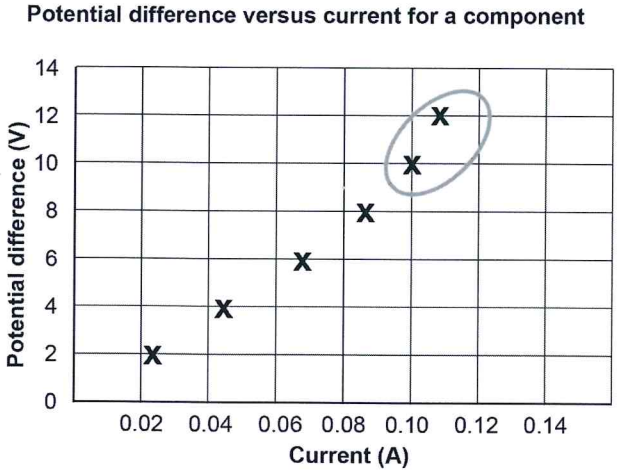
Solution 5.5
Answer 1

Year 11

(3 marks)

On the graph circle the section that shows the component acting as a non-ohmic resistor. Justify your answer.



Description	Marks
Identifies section by circling two or more crosses.	1
If an ohmic component with a constant resistance, V is proportional to I a straight line graph is produced. Crosses at the top curved so not proportional so must be a non-ohmic section	1–2
Total	**3**

Answer 2

(4 marks)

(a) Explain what is meant by the term 'non-ohmic'. (2 marks)

Description	Marks
Does not follow Ohm's law	1
A non-ohmic conductor does not proportionally increase the current compared to potential difference (resistance is not constant)	1
Total	**2**

(b) Calculate the resistance when the potential difference is 1.0 V. (2 marks)

Description	Marks
R=V/I=1.0/2.5	1
R_1=0.40 Ω	1
Total	**2**