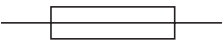

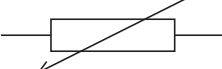
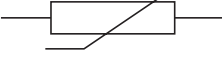


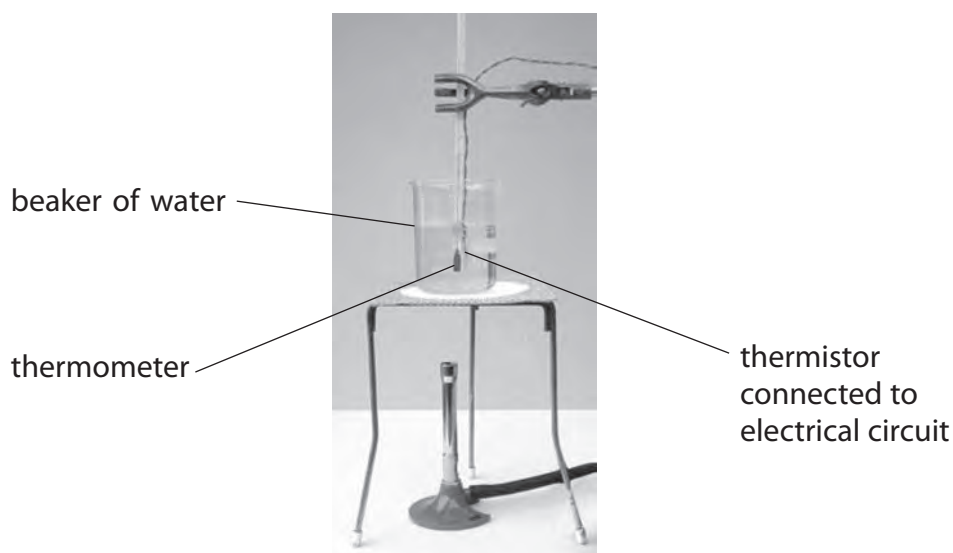
5 A student investigates the resistance of a thermistor.

(a) Which of these is the correct symbol for a thermistor

(1)

<input type="checkbox"/>	A	
<input type="checkbox"/>	B	
<input type="checkbox"/>	C	
<input type="checkbox"/>	D	

(b) The student uses this apparatus to investigate how the resistance of a thermistor changes with temperature.



(i) Explain why the student places the thermistor in a beaker of water.

(2)

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(ii) The student also uses a voltmeter and an ammeter.

How should the voltmeter and the ammeter be connected in his circuit?

(1)

	Voltmeter	Ammeter
<input type="checkbox"/> A	in parallel across the power supply	in parallel across the thermistor
<input type="checkbox"/> B	in parallel across the thermistor	in series with the thermistor
<input type="checkbox"/> C	in series with the power supply	in series with the thermistor
<input type="checkbox"/> D	in series with the thermistor	in parallel across the thermistor



(c) The table shows the student's results.

Temperature in $^{\circ}\text{C}$	Resistance in Ω
0	10 000
10	7 060
20	5 000
40	2 670
60	2 350
80	1 080
100	609

(i) Plot a graph of these results on the grid.

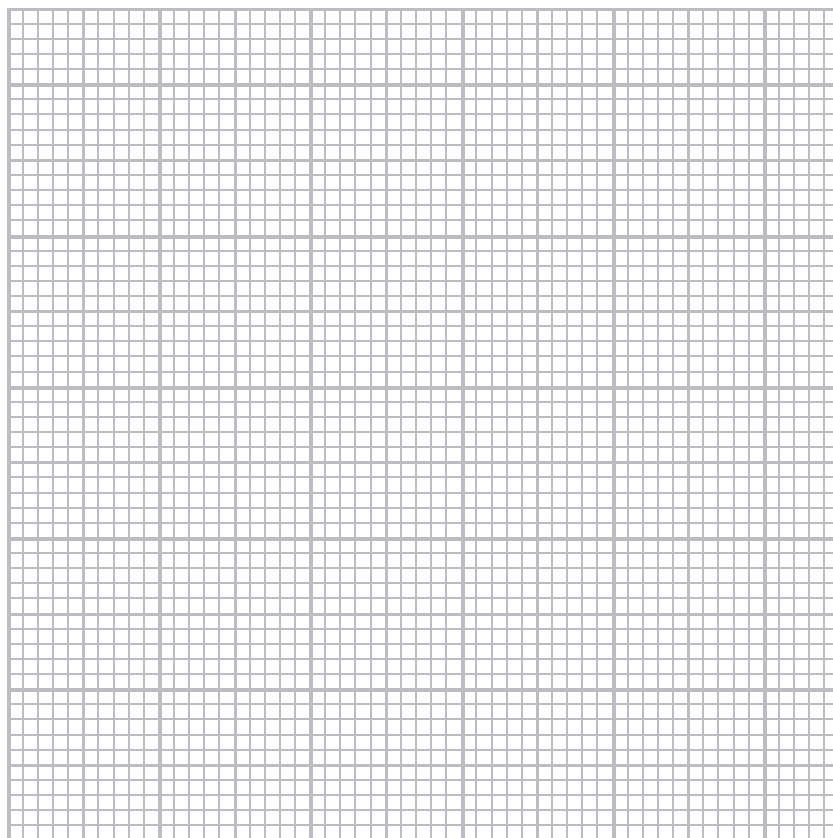
(4)

(ii) Circle the anomalous point on the graph.

(1)

(iii) Draw a curve of best fit.

(1)



(d) (i) Why is the maximum temperature in the student's investigation limited to 100°C ?

(1)

(ii) Suggest how the student obtains readings below room temperature.

(1)

(Total for Question 5 = 12 marks)

