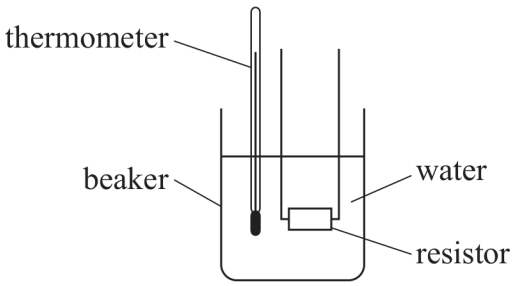
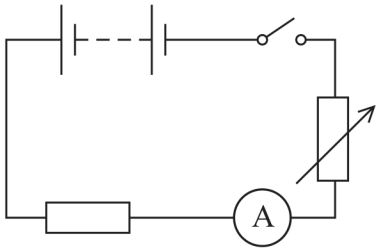
Answer ALL questions.

1 A wire-wound resistor can become hot when there is a current in it. This heating effect can be investigated using the apparatus shown.





A student investigated whether the temperature rise of the water $\Delta\theta$ was proportional to the current I in the resistor. For each value of current, the student refilled the beaker with water at the same initial temperature.

(a) (i) Identify two other control variables for this investigation.

(2)

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(ii) The student recorded the following data.

I/A	1.5	2	2.5	3
$\Delta\theta$	3.5	7	9.5	15

Criticise the recording of this data.

(3)

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(b) Explain one improvement the student could make to reduce the uncertainty in the measurement of $\Delta\theta$ for each value of I.

(2)

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(Total for Question 1 = 7 marks)