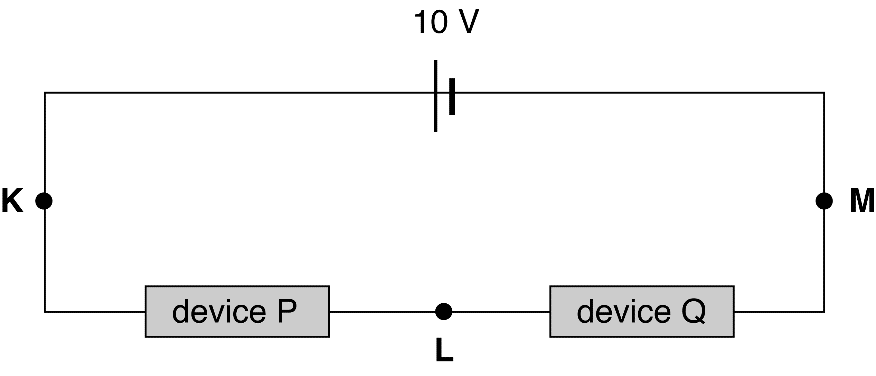
Task 7: Year 11: Investigation Ohmic – Non-Ohmic Circuits : Validation Test

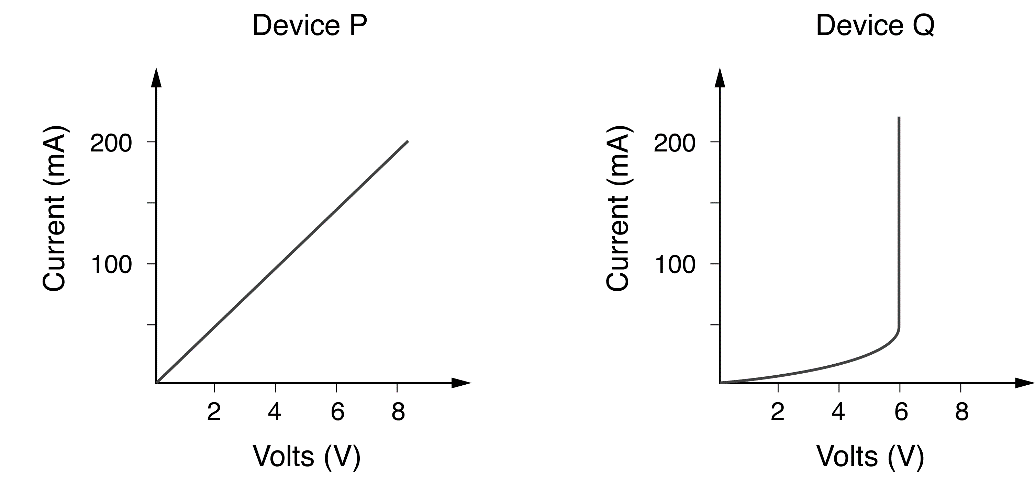
Name: Class: Date: \_\_\_\_\_\_\_\_\_\_

*(For all questions clearly show working or explain reasoning)*

Two electrical devices are connected in a series circuit as shown in the following diagram. The battery has zero internal resistance and the current at point K is 100 mA.

**a** Determine the current at point L? (2 marks)

The current–voltage characteristics for these two devices are shown in the graphs below.



**b** Calculate the potential difference between points K and L. (2 marks)

**c** Determine the potential difference between points L and M. (2 marks)

**d** Determine the effective resistance of device Q when I is 100 mA? (2 marks)

**e** State which of these two components obeys Ohm’s law and explain your reasoning? (2 mark)

**f** For the device you identified as ohmic use the gradient of the graph to determine the resistance of the device in e. (2 marks)