2. An oscillating system has a period, $T$, which is related to the length, $l$, of the suspension by the equation $T = al^n$, where $a$ and $n$ are constants.

Table 1 shows the time periods obtained as the length was changed.

| $l$/mm | 231 | 292 | 411 | 515 | 859 |
|--------|------|------|------|------|------|
| $T$/s | 0.94 | 1.06 | 1.27 | 1.42 | 1.86 |

**Table 1**

(a) Plot a suitable graph using the axes on page 7 to allow you to determine the values of $a$ and $n$.

**[4 marks]**

(b) Use the graph to find the value of $n$.

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_____

_____

**[2 marks]**

(c) Use your value of $n$ to find $a$.

_____

_____

_____

**[2 marks]**

(d) Suggest an accurate means of determining the time period, $T$.

_____

_____

_____

**[2 marks]**

**Total 10 marks**