<table>
<tr><th>Question number</th><th>Answer</th><th>Notes</th><th>Marks</th></tr>
<tr><td>2 (a)

(b)</td><td>Similarity - both have magnitude/OWTTE;
Difference - vector has direction OR scalar does not have direction;

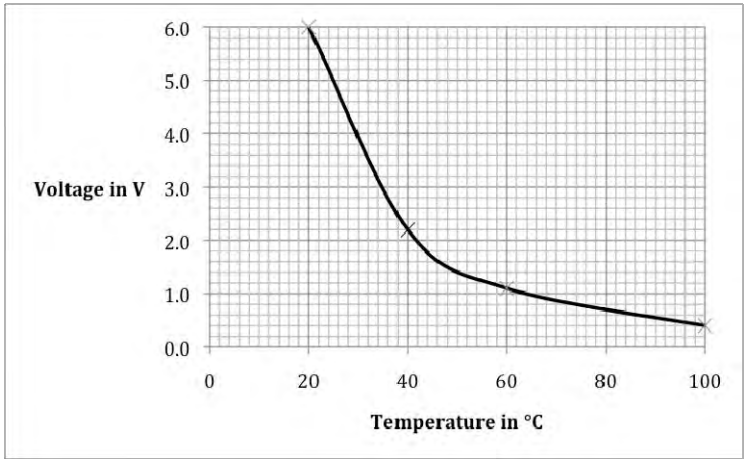
<table><tr><td>Quantity</td><td>Scalar</td><td>Vector</td></tr><tr><td>Density</td><td></td><td></td></tr><tr><td>energy</td><td></td><td></td></tr><tr><td>force</td><td></td><td></td></tr><tr><td>momentum</td><td></td><td></td></tr><tr><td>speed</td><td></td><td></td></tr><tr><td>velocity</td><td></td><td></td></tr></table>One or two correct ticks = 1 mark
Three or four correct ticks = 2 marks
All five correct ticks = 3 marks</td><td>

Ignore density (already completed)</td><td>2

3</td></tr>
</table>

Total 5 marks

<table>
<tr><th>Question number</th><th>Answer</th><th>Notes</th><th>Marks</th></tr>
<tr><td>4 (a)</td><td>Any three of -
MP1 use a stirrer / stir with thermometer;
MP2 centralise / spread heat source;
MP3 move thermistor and thermometer to same level;
MP4 move thermistor and thermometer closer together;
MP5 Use thermometer with finer scale / digital thermometer;</td><td>Ignore repeat readings

Assume horizontal separation meant</td><td>Max 3</td></tr>
<tr><td>(b)</td><td>(milli)Ammeter;</td><td>Allow ampmeter</td><td>1</td></tr>
<tr><td>(c) (i)</td><td>Scale; (at least half the grid)
Axes labelled including units;
Plotting ±½ small square;;
Line of best fit;
 
</td><td>Accept axes reversed
-1 each plotting error, minimum 0 for plotting
Curve through either (80, 0.2) or (100, 0.4)
Allow line bisecting these two points
<table><tr><th>Temperature in °C</th><th>Voltage in V</th></tr><tr><td>20</td><td>6.0</td></tr><tr><td>40</td><td>2.2</td></tr><tr><td>60</td><td>1.1</td></tr><tr><td>80</td><td>0.2</td></tr><tr><td>100</td><td>0.4</td></tr></table></td><td>5</td></tr>
<tr><td>(c) (ii)</td><td>DOP (80, 0.2) circled (if supported by line of best fit)</td><td>Allow (100, 0.4) circled if supported by line of best fit</td><td>1</td></tr>
</table>