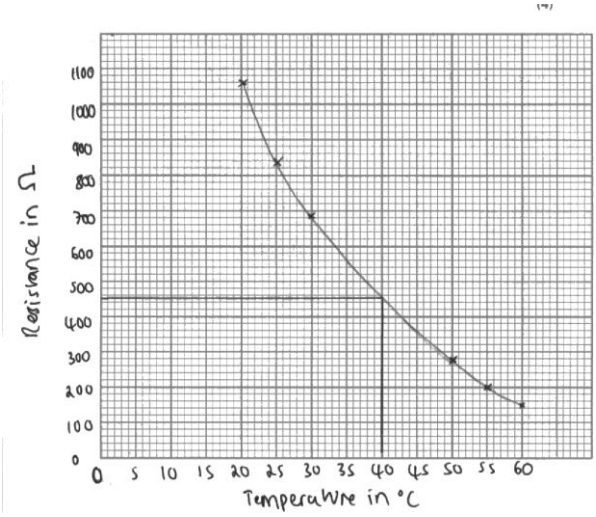
Question number	Answer	Notes	Marks
14 a	C;		1
b (i)	(independent) temperature; (dependent) resistance;	must be this way round	2
(ii)	label on both axes with units; scale on both axes; plotting;;	ignore orientation sensible linear scale using ≥50% of the grid tolerance is +/- 0.5 square -1 for each error	4
(iii)	suitable curve passing no more than 1 square from any point;		1
(iv)	value in the range 420 – 480 (Ω)	allow ecf from line drawn in (iii) ± 1/2 sq	1
(v)	any three from: MP1. idea of thermometer reading being the actual temperature of the thermistor; MP2. measure a greater range of temperatures; MP3. take readings to fill in the gap in the temperature range; MP4. idea of measuring temperature/resistance to greater precision; MP5. take repeats AND average;	e.g. • position thermometer closer to the thermistor • position thermometer at the same height as the thermistor • placing thermistor at the bottom (of the beaker) • stirring the water allow 'measure for higher temperatures' etc. allow 'measure more temperatures' in the absence of MP2 and MP3 allow use a temperature sensor and data logger more sensitive / digital thermometer	3



Temperature in °C	Resistance in Ω
60	150
55	200
50	280
30	690
25	840
20	1060