

Question number	Answer	Notes	Marks
5 (a)	- 268.8 (°C);	Minus sign is essential Allow - 269(°C) - 268.95 (°C)	1
(b) (i)	Any two of - MP1 idea that molecules move faster; MP2 idea that molecules become further apart; MP3 idea that molecules move more freely;	Must be comparative statements relating to boiling Allow increased KE increased vibration Allow (for "freely") idea that forces between molecules have been overcome Ignore ideas of bonding	2
(ii)	Straight line with positive slope; Aimed at origin;	Allow line passing through origin, stopping short or dropping to θ axis at "4.2 K"	2
(c)	Any four of - MP1 Appropriate instrument to measure temperature; MP2 Appropriate instrument to measure volume or length or tube diameter; MP3 Means of varying temperature; MP4 consideration of diameter and volume; MP5 Idea of obtaining a range of values; MP6 Idea of repetition or averaging of readings; MP7 Draw a graph to display results; MP8 Mention of kelvin temperature;	Points may be shown as labelled additions to the diagram e.g. ruler e.g. water bath / heater Allow treatment of anomalies	4

Total 9 marks