

Question	Marking Guidance	Mark	Comments
2(a)	$\Delta G = \Delta H - T\Delta S$	1	Ignore e
2(b)	0.098                      or                      98	1	Allow 0.097 to 0.099/97 to 99
	$\text{kJ K}^{-1} \text{mol}^{-1}$ $\text{J K}^{-1} \text{mol}^{-1}$	1	Allow 0.1 only if 0.098 shown in working
	$-\Delta S/\Delta S$	1	Allow in any order Unless slope is approx. 100(90-110) accept only $\text{kJ K}^{-1} \text{mol}^{-1}$ . If no slope value given, allow either units
2(c)	$\Delta G$ becomes <u>negative</u>	1	Mark independently unless $\Delta G$ +ve then CE = 0
	So reaction becomes spontaneous/feasible	1	Or reaction can occur below this temperature Or reaction is not feasible above this temperature
2(d)	Ammonia liquefies (so entropy data wrong/different)	1	Allow any mention of <u>change</u> in state or implied change in state even if incorrect eg freezing/boiling