Section A

	Answer all questions in the spaces provided.
1 (a)	Define the term lattice enthalpy of dissociation.
	(2 marks)
1 (b)	Lattice enthalpy can be calculated theoretically using a perfect ionic model.
	Explain the meaning of the term perfect ionic model.
	(1 mark)
	(1 mark) (Extra space)
1 (c)	Suggest two properties of ions that influence the value of a lattice enthalpy calculated using a perfect ionic model.
	Property 1
	Property 2
	(2 marks)



1 (d) Use the data in the table to calculate a value for the lattice enthalpy of dissociation for silver chloride.

Enthalpy change	Value / kJ mol ^{−1}		
Enthalpy of atomisation for silver	+289		
First ionisation energy for silver	+732		
Enthalpy of atomisation for chlorine	+121		
Electron affinity for chlorine	-364		
Enthalpy of formation for silver chloride	-127		
	(3 marks)	
Predict whether the magnitude of the lattice enthalpy of dissociation that you have calculated in part (d) will be less than, equal to or greater than the value that is obtained from a perfect ionic model. Explain your answer.			
Prediction compared with ionic model			

(2 marks)

Turn over ▶

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1 (e)