•	Explain the meanings of the terms first order phase transition and continuous phase transition
•	Explain how statistical mechanics shows that finite sized systems do not exhibit phase transitions
•	Explain the meaning of the term thermodynamic limit
•	Explain why the free energy of the Ising model is given by $F = -k_B T \ln \lambda_1$ in the thermodynamic
	limit. In this expression λ_1 is the principle eigenvalue of the transfer matrix

•	Derive an expression for the average magnetisation of the Ising model in the thermodynamic limit
•	Explain how the magnetic suceptibility is calculated and derive an expression for this quantity for the Ising model in the thermodynamic limit.
•	Discuss the behavior of the suceptibility of the Ising model as the temperature goes to zero and whether or not this behavior is indivative of a phase transition.