


Session 1

Exercise 1

Remembering that the susceptibility is defined as

$$\chi = \left. \frac{dm}{dh} \right|_{h=0}$$

compute the susceptibility for the Curie-Weiss theory and show

$$\chi \approx (T - T_c)^{-1}$$

Exercise 2

Show that χ is related to the variance of the magnetization

Exercise 3

Show that the heat capacity C is related to the energy fluctuations

Remember: $C = \frac{dU}{dT}$