Questions for chapter 1

1. Why diamagnetism in ordinary metals, where conduction electrons are not bound to atoms, is not a huge effect?
2. Where does the Brillouin function come from?
3. How would magnetization versus magnetic field curve look like at $T = 0$?
4. Why the Van Vleck paramagnetism does not depend on temperature?
5. What is the difference between Curie and Curie – Weiss temperatures?
6. What is the origin of magnetic order?
7. When does the mean field approximation work well?
8. What type of magnetic order, if any, would you expect in a material where only direct exchange is present? Why?