**PHY410 Homework Set 10**

1. [10 pts] Kittel-Kroemer, problem 8-3.

2. [5 pts] Kittel-Kroemer, problem 8-6.

3. [5 pts] Kittel-Kroemer, problem 8-7. Provide explanation.

4. [5 pts] Kittel-Kroemer, problem 8-9. On the low-temperature side the heat absorbed by the refrigerator is tied to the temperature change in the solid according to $\mathrm{d}Q_L = -C\,\mathrm{d}T_L$.

5. [5 pts] Kittel-Kroemer, problem 9-1. Hint: Consider second derivatives of the Gibbs free energy.