## **EXAMPLE GIBBS CALCULATIONS**

1. Calcium Oxide reacts with water to form Calcium Hydroxide

$$CaO_{(s)} + H_2O_{(l)} \rightarrow Ca(OH)_{2(s)}$$

Thermodynamic Data:  $\Delta H_f / kJ.mol^{-1}$  S / J.K.mol<sup>-1</sup>

$$CaO_{(s)}$$
 -636.5 39.7  $H_2O_{(l)}$  -285.9 70.0  $Ca(OH)_{2(s)}$  -986.6 76.1

a) Calculate the Enthalpy changes for the reactions.

b) Calculate the Entropy Change for the reactions.

c) At what temperature would this reaction **NOT** be feasible?