1. Problem 4.11 in text.

2. A BJT amplifier has a supply voltage of 15 V, \( R_1 = 20 \, \text{k}\Omega \), \( R_2 = 6 \, \text{k}\Omega \), \( R_C = 4 \, \text{k}\Omega \), \( R_E = 2 \, \text{k}\Omega \), \( R_G = 50 \, \Omega \), \( R_L = 2 \, \text{k}\Omega \), \( \beta = 200 \), and \( V_A = 120 \, \text{V} \). Determine the value for \( V_{CE} \) as well as all the values for the small signal equivalent circuit. Then determine the voltage gain as a ratio and in dB, the input resistance, and the output resistance.