1. Design a common collector amplifier with the following specification:

- Symmetric Clipping
- $R_E = 3\, \text{k}\Omega$
- $r_{in} = 100\, \text{k}\Omega$
- $V^+ = 15\, \text{V}$
- $V^- = -15\, \text{V}$
- $C_1 = C_2 = 10\, \mu\text{F}$
- $R_L = 10\, \text{k}\Omega$

For the design calculations assume that the Early voltage is infinity, $\beta = \infty$, the thermal voltage is 25.9 mV, $V_{CE(sat)} = 0.2\, \text{V}$, and that the dc voltage drop from base-to-emitter is 0.827 V.

2. Simulate the circuit designed in Problem 1 with SPICE. Use the SPICE parameters for the NPN transistors given in the Preliminary SPICE Simulations sections excepts use $\beta = \infty$. Obtain the dc operating point, an ac analysis, and a transient analysis sufficient to show the clipping behavior.