Consider the given circuit with $V_1=10V$, $\beta = \beta_0 = 100$, $R_1=300K$, $R_2=R_3=1K$, $R_4\gg R_2$ and the capacitors are very large.

a) (2) Draw the DC model for the circuit and calculate bias conditions.

b) (2) Draw the AC model for the circuit and calculate any necessary model values.

c) (2) Estimate the impedance that $V_{in}$ sees looking into the circuit?

d) (2) What impedance does $R_4$ see looking back into the circuit?

e) (2) Estimate the voltage gain of the circuit.