1. After being open for a long time, the switch closes at $t = 0$.
   Calculate the energy stored on the inductor as $t \to \infty$.

2. For the circuit in problem 1, write a numerical expression for $v(t)$ for $t > 0$.

3. After being closed for a long time, the switch opens at $t = 0$.
   Write an expression for $v_C(t > 0)$ using not more than $R_1, R_2, v_s, i_s$, and $C$. 
4. a) Calculate the value of $R_L$ that would absorb maximum power.

b) Calculate that value of maximum power $R_L$ could absorb.

5. Using superposition, derive an expression for $v_2$ that contains no circuit quantities other than $i_s, v_s, R_1, R_2$, and $\beta$ where $\beta > 0$. 