Part I: due February 8th, 2010

1. For the circuit shown, the design goal is to have $i(t)$ lead $v_s(t)$ by 55° of phase.
   (a) If $v_s(t) = 120\sqrt{2} \cos(120\pi t)$ V, what circuit element should be in the box: $R$, $L$ or $C$?
   (b) What is the numerical value of the element?
   (c) What is the peak value of $i(t)$?
   (d) If the frequency is doubled, determine the phase difference between $i(t)$ and $v_s(t)$.

2. Problem 10.17 (text)
3. Problem 10.19 (text)
4. Problem 10.38 (text)

Part II: due February 10th, 2010

5. Problem 10.46 (text)
6. Problem 10.48 (text)

Reading Assignment: Chapter 10