Using ONLY the components and equipment on your desk, you have 30 minutes (there is a penalty for overtime) to setup the signal generator and circuit shown in Fig. 1 for the values given. The signal generator is modeled as an ideal voltage source $v_s(t) = V_{DC} + V_m \cos(\omega t)$ V in series with an internal source resistance $R_S = 50 \Omega$. Given:

- $V_{DC} = -2 \ V$ & $V_m = 8 \ V$
- $f = 440 \ Hz$
- provided inductor
- resistance of $R = 220 \ \Omega$
- capacitance of $C = 1 \ \mu F$.

Using a digital multimeter, complete the following tasks:

1) Measure the RMS source current.  
$I_{S,RMS} =$ ______________

2) Measure the DC source current.  
$I_{S,DC} =$ ______________

3) Measure the RMS voltage across the resistor.  
$V_{R,RMS} =$ ______________

4) Measure the DC voltage across the inductor.  
$V_{L,DC} =$ ______________

Using an oscilloscope, complete the following tasks:

5) Display $v_{IN}(t)$ on ch. 1 and $v_L(t)$ on ch. 2 using the same voltage scale for both signals. Adjust the reference levels (in even increments, keeping Ch. 1 & 2 aligned), volts/div, and seconds/div to display as close to two cycles of the signal as possible with the signals as large as possible.

6) When finished, leave the circuit set-up & running and this sheet on the desk. Check-out with the lab instructor and leave (you are done). The instructor will check your circuit.

Time = ______________

Notes: