EE 201 — HW 5.8 Name_____

A switching voltage source is connected directly across a 100-μH inductor. The voltage source is constant at 5 V for 100 μs and is then switched to a constant of –2 V for 250 μs. the cycles then repeats.

Make a good *quantitive* sketch of the inductor current as a function of time.

You can assume the the inductor current is 0 at $t = 0$.

How would the sketch change if the voltage source were at –2 V for only 2 ms? If the voltage source kept switching back and forth forever, what would be the eventual inductor current after a very long time?

Write your answers — and whatever work will fit — on this sheet. Staple any sheets with additional work behind.