

Special Problem 4.6-7

The inductor in the circuit below is **unfathomably** large.

I have completed the **DC analysis** (so you **don't** have to)—I determined that $V_{GS} = 6.0 \text{ V}$, and **CHECKED** that the MOSFET is in **saturation**.

1. Now you determine and **carefully draw** the simplified **small-signal circuit** (be complete, clear, and precise!).

2. Analyze the small-signal circuit and determine the **small-signal voltage gain** ($A_v = v_o/v_i$) of the **amplifier** below.

Hints: Be **careful** when determining V_{gs} .

