Special Problem 1.5-2

Amplifier A1 has:
- an input resistance of 750 Ω.
- an output resistance of 10KΩ.
- an open-circuit voltage gain of 100 V/V.

Amplifier A2 has:
- an input resistance of 30 KΩ.
- an output resistance of 50 Ω.
- an open circuit voltage gain of 1 V/V.

A voltage source with a source resistance of 250Ω is connected to the input of the common-emitter amp.

The output of the first amp (A1) is connected to the input of the second (A2).

The output of the second amp is connected to a load of 50 Ω.

I.E.,

![Circuit Diagram]

What is the value of \( \frac{v_o}{v_s} \)?