

### Special Problem 2.5-1

The amplifier below has an open-circuit voltage gain  $A_{vo} = v_o/v_I$  and a 3dB bandwidth of 1 MHz.

The op-amp is **not** ideal.

- 1) At what frequency (in Hertz) is the gain of this amplifier equal to **one** (i.e.,  $|A_{vo}(f = ?)| = 1$ )?
- 2) What is the **gain** this amplifier at a signal frequency of 5 MHz (i.e.,  $|A_{vo}(f = 5 \times 10^6)| = ?$ )?
- 3) Determine a **new value** of resistor  $R_2$  so that **bandwidth** of the amplifier is changed to 4.0 MHz.

