PROBLEM SET #3

Issued: Friday, September 13, 2019

Due: Friday, September 20, 2019, at 12:00 noon via Gradescope.

1. Sedra & Smith, Problem 2.110
2. Sedra & Smith, Problem 2.111
3. Sedra & Smith, Problem 2.117
4. Sedra & Smith, Problem 2.124
5. Sedra & Smith, Problem 2.126
6. You're tasked with building the op amp circuit in figure PS3.1 and told the final circuit must have a maximum gain error of 0.5% when driving a load resistance of 100 Ω. If the op amp's output impedance is 1 kΩ, what is the minimum open loop gain it must have?

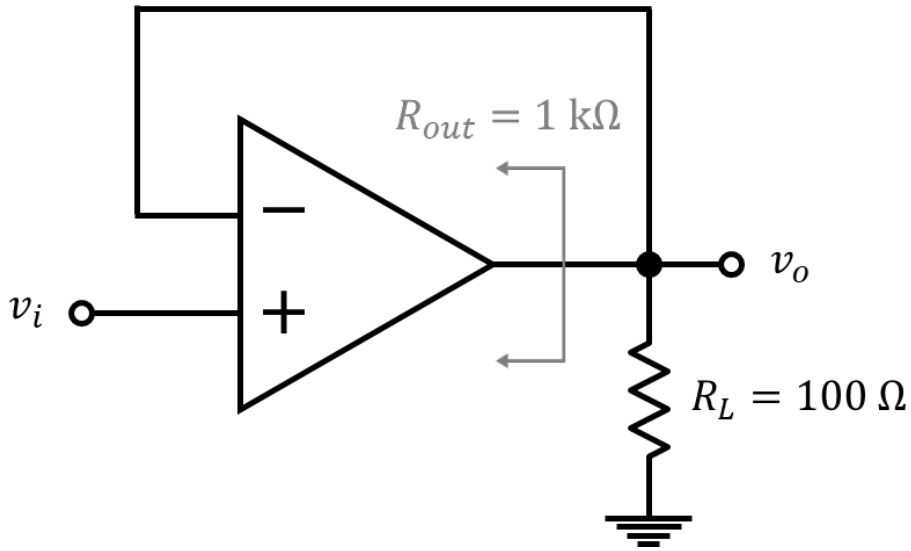

Figure PS3.1

7. A particular noninverting amplifier design must have a closed-loop gain of 62 dB. The only op amp that is available has an open-loop gain of 60,000. What must the tolerance of the feedback resistors be if the total gain error must be ≤ 1%? Assume that the resistors all have the same tolerance.