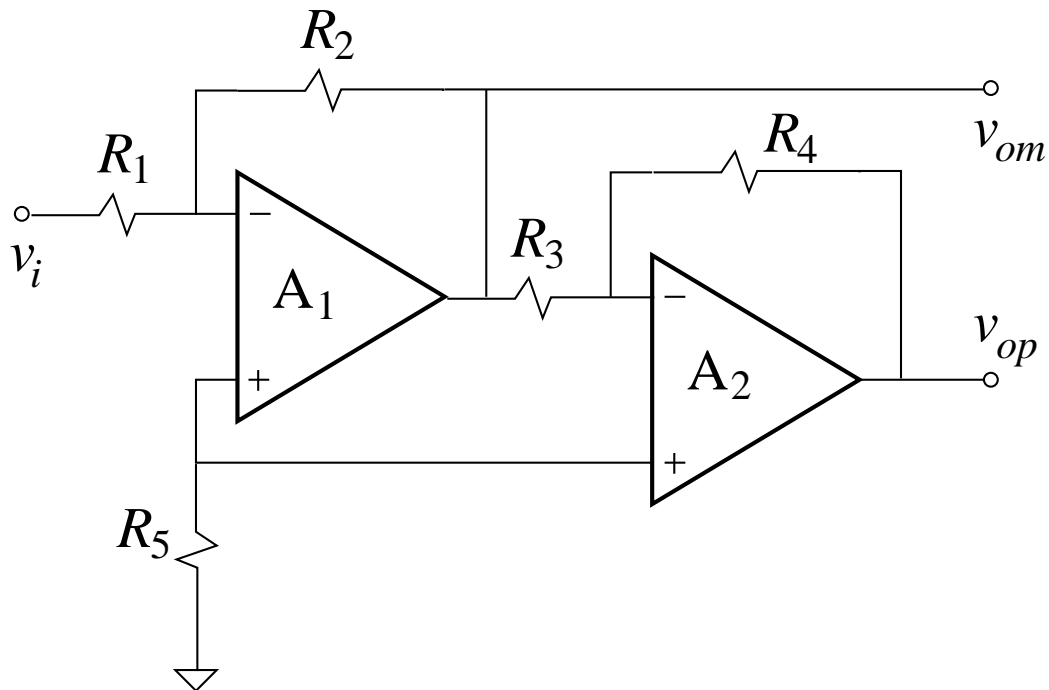


**EE7331-501**  
**Homework # 5**

Due: Thursday, November 15



Using the circuit schematic above, derive the expression for the variance of the differential output referred noise voltage  $\overline{v_{od}^2} = \overline{(v_{op} - v_{om})^2}$ . The resistors have thermal noise and assume that the opamp is CMOS and only has thermal noise.

State all assumptions you use in your work. Use the correct labels from the schematic in your equations.