# EECS 215 Winter Semester 2010 Midterm Exam I: Corrections, Clarifications & Hints

**Problem 2**

b) Find the mesh current $i_1$, $i_2$, $i_3$, $i_4$. Show your work but clearly box-in your answers and express them including units (A, mA, etc.)

**Problem 3**

a) The gain (G) should not include any effects of DC offset voltage. First find $V_o$ as function of $V_{in}$ and the other parameters, and then Define G by:

$$G = \frac{\partial V_o}{\partial V_{in}}$$

b) Similarly, the effective input resistance should not consider DC offsets. First find the input current $I_{in}$ flowing out of the input source. Then find:

$$R_{in,eff} = \frac{\partial V_{in}}{\partial I_{in}}$$

c) This problem can be done correctly in several ways, but you may want to consider finding the short circuit current as a first step.