1) For this difference amplifier, and given the constraint: \( \frac{R_4}{R_3} = \frac{R_2}{R_1} \),

a) What is the differential gain \( \frac{v_o}{v_{i1} - v_{i2}} \)?

b) What is the common-mode gain \( \frac{v_o}{v_{ICM}} \)? What happens if the resistors vary?

c) What is the differential input resistance?
2) What is the differential gain of the following circuit?
3) What is the differential gain of the following circuit?