EMTR 1030 – Electronics

Assignment 1

Due: 5:00pm, Thursday, January 22

Q1. Problem 1.26

Q2. Problem 1.46

Q3. Problem 2.3

Q4. Problem 2.10

Q5. Problem 2.45

Q6:

Consider the noninverting amplifier as shown in the following graph, with $R_1 = 2$ kΩ and $R_2 = 10$ kΩ, and an ideal closed-loop gain of 100.

(a) Find the closed-loop gain if $A = 10^5$. Determine the percentage error in the magnitude of G relative to the ideal value of R_2/R_1. Also determine the voltage v_1 that appears at the noninverting input terminal when $v_I = 0.2$ V.

(b) If the open-loop gain A changes from 10^5 to 10^4, what is the corresponding percentage change in the magnitude of the closed-loop gain G?