

Lab Session 2: Submit the Graph (1.4), Graph (1.5), Table (1.1), Table (1.2) and your answers to the post-lab questions to your TA at the end of lab session 2.

Graph (1.4) (0.5 marks) TA Initial:

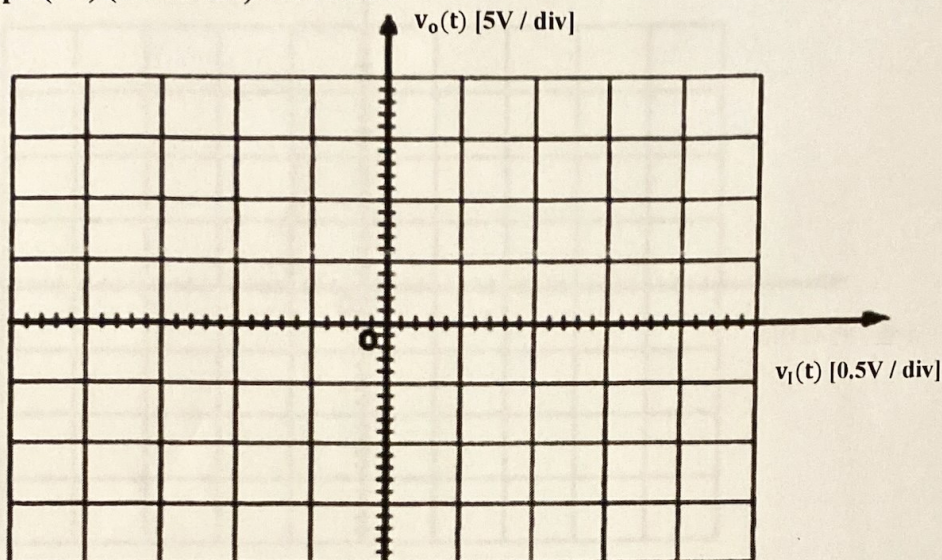


Table (1.1) (0.5 marks) TA Initial:

Circuit Conditions	Feedback Factor β	Valid Input Range (Dynamic Range) for $v_i(t)$	Voltage Gain $[v_o/v_i]$	R_o	R_i
Negative feedback [$R_2 = 100k\Omega$]	0.090909	2.31	$\frac{13.005}{2.348} = 5.5367$	0.0066	1.99
Negative feedback [$R_2 = 47k\Omega$]	0.1754385	2.31	$\frac{13.005}{3.011} = 4.319$	0.0066	1.99
[$R_1 = \infty$ & $R_2 = 0$]	∞	2.376	1	0.0066	1.99

$$\frac{(+159.064)}{0.5 + 159.064} \times 2$$

$R_1 = \infty$

Graph (1.5) (0.5 marks) TA Initial:

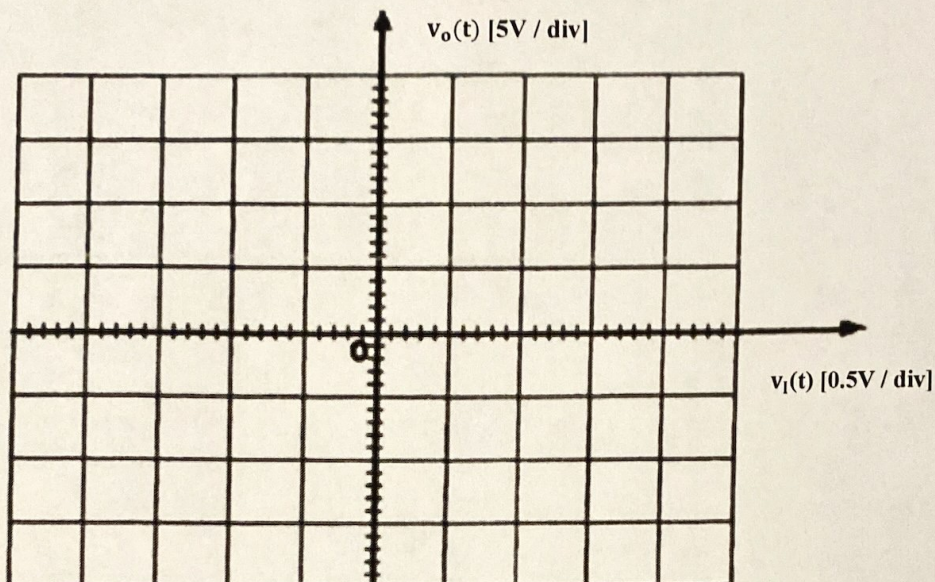


Table (1.2) (0.5 marks) TA Initial:

Circuit Conditions	Feedback Factor β	Valid Input Range (Dynamic Range) for $v_i(t)$	Voltage Gain $[v_o/v_i]$	R_o	R_i
Negative feedback [$R_2 = 100k\Omega$]	0.090909	2.31	$\frac{-13.005}{2.44} = -5.33$	55.83	
Negative feedback [$R_2 = 47k\Omega$]	0.1754	2.31	-3.85	25.82	

$$\frac{10}{110} \quad 100k\Omega: \quad V_{O-L} = 25.39 \text{ mV} \quad \frac{1.443 - 25.39 \times 10^{-3}}{25.39 \times 10^{-3}} = 55.83$$

$$V_{O-NL} = 1.443 \text{ V}$$

$$\frac{10}{57}$$

47k Ω :

$$V_{O-L} = 25.3 \text{ mV}$$

$$V_{O-NL} = 678.435$$

$$\frac{V_{O-NL} - V_{O-L}}{V_{O-L}}$$