Lab 3

B.) Non-Inverting:

$V_i = 5$ Volts

$V_{o\,\text{measured}} = 13.24$ Volts

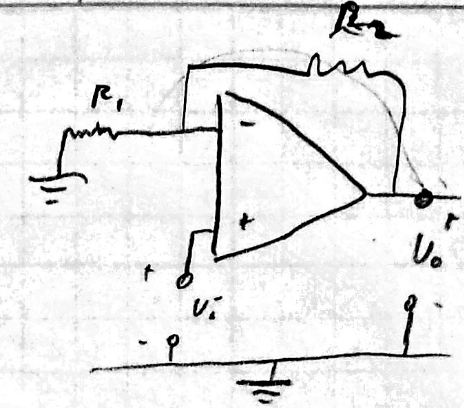
$V_{o\,\text{theory}} = 15$ Volts

$G = 1 + \frac{R_2}{R_1} = 3$

$\left.\begin{array}{l} R_2 = 2\,k\Omega \\ R_1 = 1\,k\Omega \end{array}\right\}$ ideal

$\left.\begin{array}{l} R_2 = 2.175\,k\Omega \\ R_1 = 0.967\,k\Omega \end{array}\right\}$ measured

$G = 1 + \frac{2.175}{0.967} = 3.249$



C.) Follower:

$G = 1$

$R_2 = 0$

$V_i = 5$ Volts

$V_{o\,\text{measured}} = 5.05$ Volts

$V_{o\,\text{theory}} = 5$ Volts

Short R_2 in above figure

D.) Inverting:

$\left.\begin{array}{l} G = -\frac{R_2}{R_1} = -2 \\ R_2 = 2\,k\Omega \\ R_1 = 1\,k\Omega \end{array}\right\}$ ideal

$\left.\begin{array}{l} G = -\frac{R_2}{R_1} = \frac{-2.175}{0.967} = -2.249 \\ R_2 = 2.175\,k\Omega \\ R_1 = 0.967\,k\Omega \end{array}\right\}$ Measured

$V_i = 5$ Volts

$V_{o\,\text{measured}} = -11.98$ Volts

$V_{o\,\text{theory}} = -10$ Volts