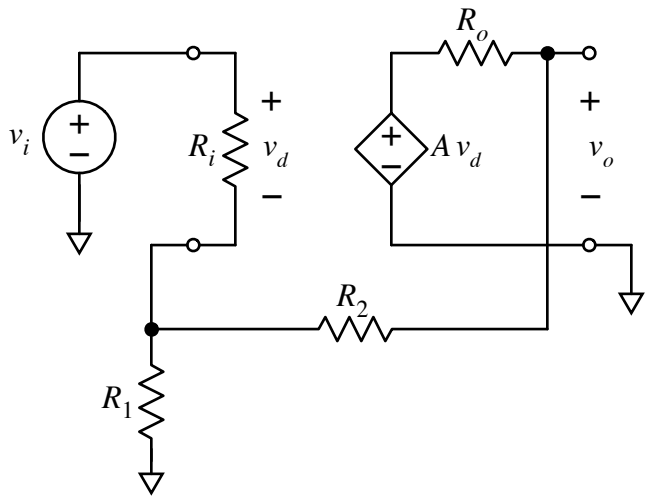
EE 230 — HW 1.6 Name_____

In the amplifier circuit at right, the feedback network consists of the two resistors $R_1 = 1$ kΩ, and $R_2 = 15$ kΩ.

Note: Do not try to analyze this as a feedback problem. Just use circuit analysis to find the closed-loop gain.



a. Start with the ideal model for the amp $R_i \to \infty$, $R_o \to 0$, and $A \to \infty$. Calculate the closed-loop gain in that case. (This was done in class.)

$G = v_o/v_i =$ _____

b. $R_i = 100$ kΩ, $R_o = 0$, and $A = 1000$. $G =$ _____

$R_i = 10$ kΩ, $R_o = 0$, and $A = 100$. $G =$ _____

$R_i \to \infty$, $R_o = 100$ Ω, and $A = 1000$. $G =$ _____

$R_i \to \infty$, $R_o = 1$ kΩ, and $A = 100$. $G =$ _____

$R_i = 100$ kΩ, $R_o = 100$ Ω, and $A = 1000$ $G =$ _____

$R_i = 10$ kΩ, $R_o = 1$ kΩ, and $A = 100$ $G =$ _____

Write your answers — and whatever work will fit — on this sheet. Staple any sheets with additional work behind.