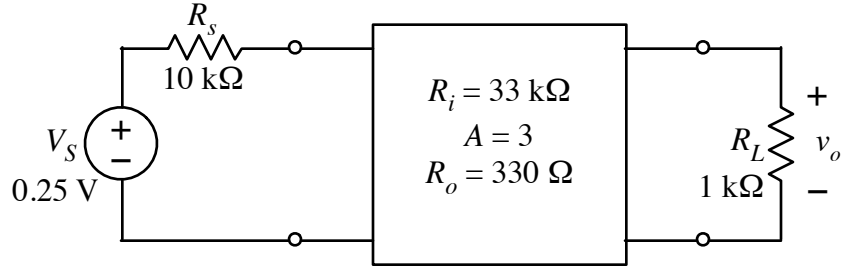


An amp with the two-port model parameters given shown at right used to amplify a signal from source with a 10-kΩ source resistance and apply it a load of 1 kΩ.



a. Calculate the voltage gain, v_o/V_S for the single stage amp: $A_{T1} =$ _____

b. What is the gain if two stages of the same amp are used? $A_{T2} =$ _____

c. Three stages? $A_{T3} =$ _____

d. Four stages? $A_{T4} =$ _____

e. N stages? $A_{TN} =$ _____

(Find an expression for the gain in terms of $R_s, R_L, R_i, A, R_o,$ and N .)