

## QUIZ NO. 3

NAME \_\_\_\_\_ Score \_\_\_\_\_ /10

The voltage amplifier shown uses an ideal op amp.

- Find the voltage gain,  $v_{out}/v_{in}$  in terms of the resistors  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$ .
- Find the input resistance,  $R_{in}$ , in terms of resistors  $R_1$ ,  $R_2$ ,  $R_3$  and  $R_4$ .
- If  $R_1 = R_4 = 90\text{k}\Omega$  and  $R_2 = R_3 = 100\text{k}\Omega$  numerically evaluate  $v_{out}/v_{in}$  and  $R_{in}$ .

