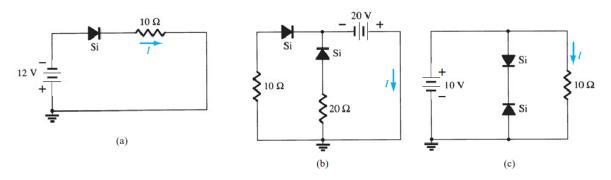
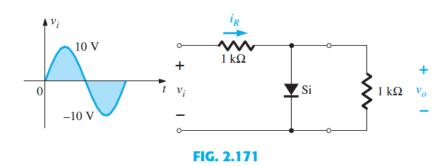
## **ENEE236 CH2 Homework Problems**

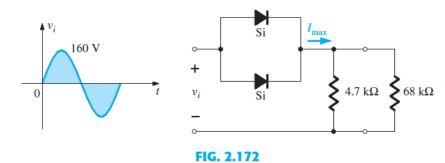
5. Determine the current *I* for each of the configurations of Fig. 2.155 using the approximate equivalent model for the diode.



\*26. For the network of Fig. 2.171, sketch  $v_o$  and  $i_R$ .



- \*27. a. Given  $P_{\text{max}} = 14 \text{ mW}$  for each diode at Fig. 2.172, determine the maximum current rating of each diode (using the approximate equivalent model).
  - **b.** Determine  $I_{\text{max}}$  for the parallel diodes.
  - ${\bf c.}~$  Determine the current through each diode at  $V_{i_{\rm max}}$  using the results of part (b).
  - **d.** If only one diode were present, which would be the expected result?



\*31. Sketch  $v_o$  for the network of Fig. 2.175 and determine the dc voltage available.

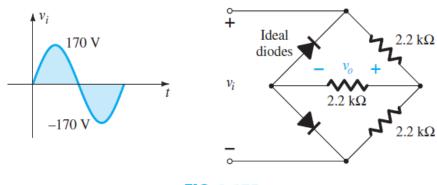
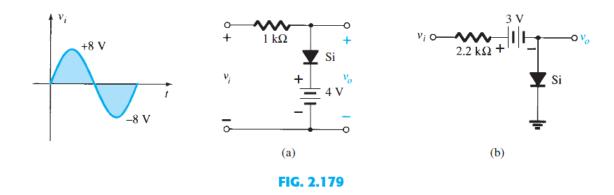


FIG. 2.175

\*35. Determine  $v_o$  for each network of Fig. 2.179 for the input shown.



\*40. Design a clamper to perform the function indicated in Fig. 2.184.

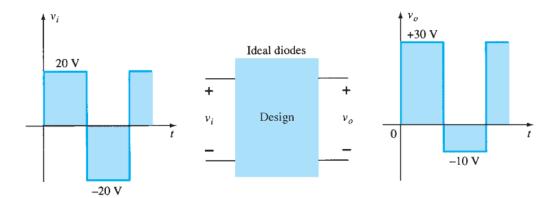


FIG. 2.184

- \*42. a. Determine  $V_L$ ,  $I_L$ ,  $I_Z$ , and  $I_R$  for the network of Fig. 2.186 if  $R_L=180~\Omega$ .
  - **b.** Repeat part (a) if  $R_L = 470 \Omega$ .
  - ${\bf c.}$  Determine the value of  $R_L$  that will establish maximum power conditions for the Zener diode.
  - **d.** Determine the minimum value of  $R_L$  to ensure that the Zener diode is in the "on" state.

