ENEE236 CH4 Homework Problems
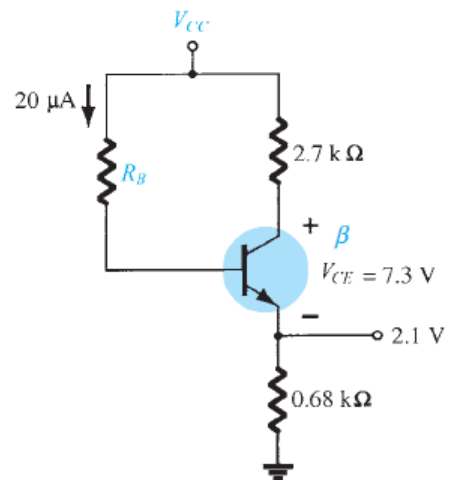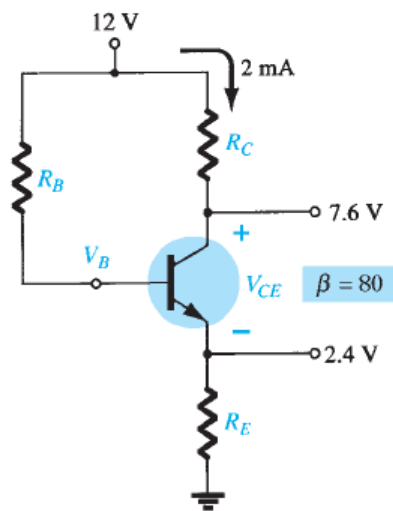
10. Given the information provided in Fig. 4.123, determine:
    a. R_C.
    b. R_E.
    c. R_B.
    d. V_{CE}.
    e. V_B.

11. Given the information provided in Fig. 4.124, determine:
    a. β.
    b. V_{CC}.
    c. R_B.

FIG. 4.123

FIG. 4.124

18. Given the information appearing in Fig. 4.127, determine:
- **a.** I_C.
- **b.** V_E.
- **c.** V_{CC}.
- **d.** V_{CE}.
- **e.** V_B.
- **f.** R_1.

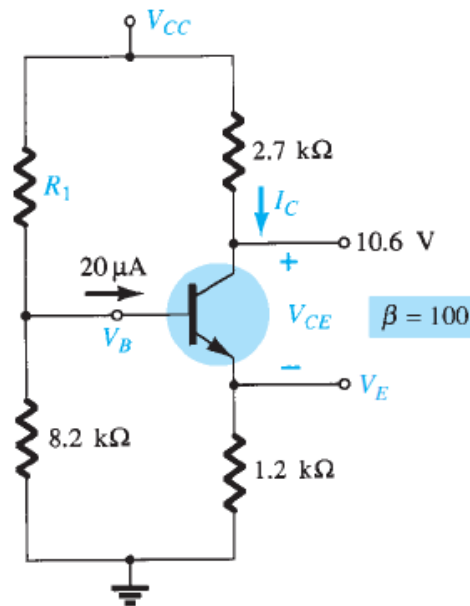**FIG. 4.127**

*33. Given $V_B = 4$ V for the network of Fig. 4.133, determine:
    a. V_E.
    b. I_C.
    c. V_C.
    d. V_{CE}.
    e. I_B.
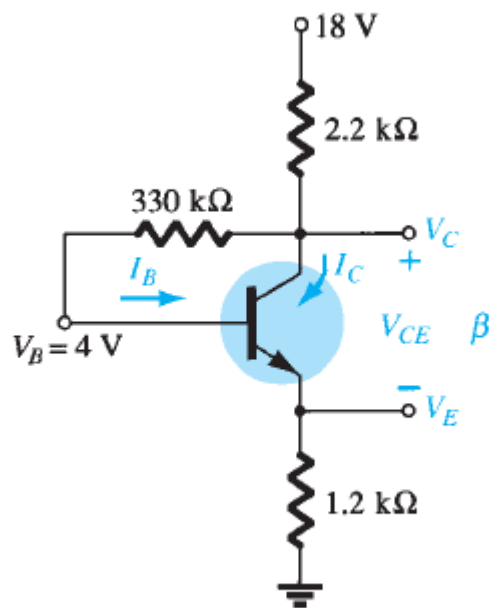   f. β.

FIG. 4.133

*34. Determine the level of V_E and I_E for the network of Fig. 4.134.
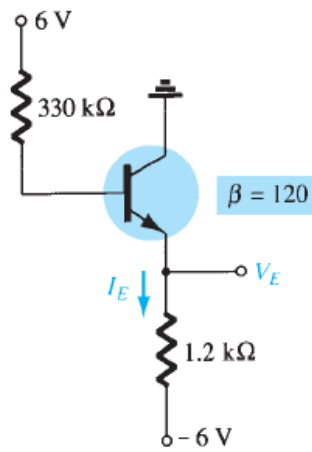

FIG. 4.134

43. Design a voltage-divider bias network using a supply of 24 V, a transistor with a beta of 110, and an operating point of $I_{C_Q} = 4$ mA and $V_{CE_Q} = 8$ V. Choose $V_E = \frac{1}{8}V_{CC}$. Use standard values.

46. For the Darlington amplifier of Fig. 4.142 determine
   a. the level of β_D.
   b. the base current of each transistor.
   c. the collector current of each transistor.
   d. the voltages V_{C_1}, V_{C_2}, V_{E_1}, and V_{E_2}.
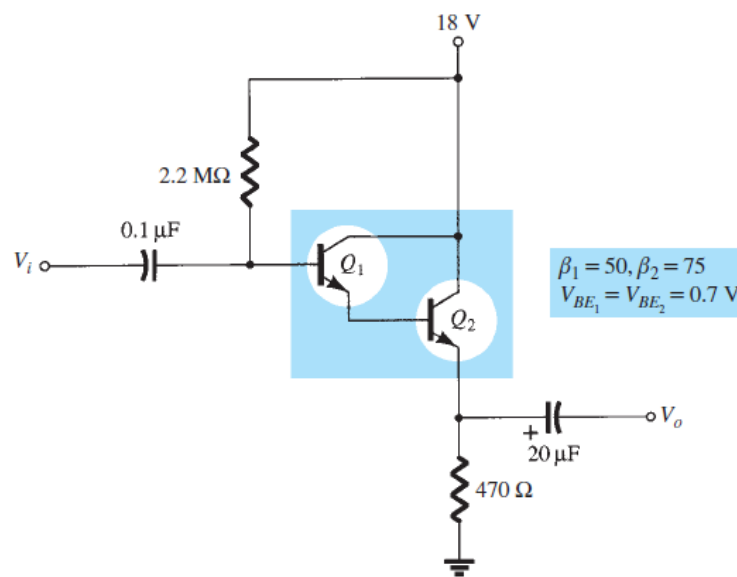

FIG. 4.142

56. Determine I_E and V_C for the network of Fig. 4.152.

FIG. 4.152