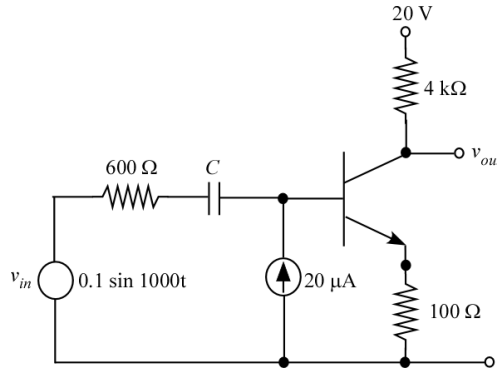
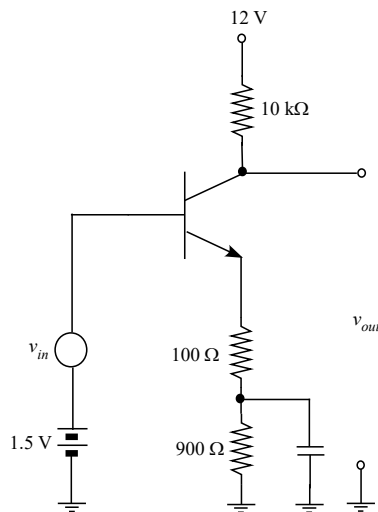


1. If  $\beta = 100$ , calculate the midband voltage gain and sketch the output voltage including the dc component for the circuit shown.



If  $I_{BQ}$  is reduced to  $5 \mu A$ , calculate the midband voltage gain. Compare to the gain when  $I_{BQ} = 30 \mu A$ .

2. If  $V_{BE(on)} = 0.6V$ , calculate the midband voltage gain for the circuit shown.



3. If  $V_{BE(on)} = 0.6 V$  and  $\beta = 100$ , calculate the midband voltage gain for the circuits shown.

