1. Two configurations will work. Either is okay. Extra $R_{1}=100 \Omega$.
2. $\quad b_{2}=\frac{4}{\pi} \mathrm{~V}$
3. $\quad \mathrm{V}_{\mathrm{i} 3}(t)=-j \frac{1}{5} \mathrm{~V}$
4. $\quad v_{\mathrm{o} 3}(t)=96 \cos (10 \mathrm{M} t)+72 \sin (10 \mathrm{M} t) \mathrm{mV}$
