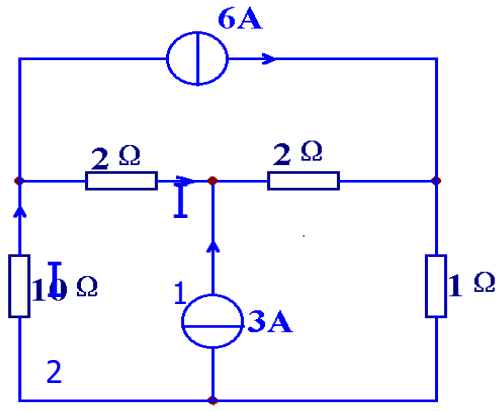
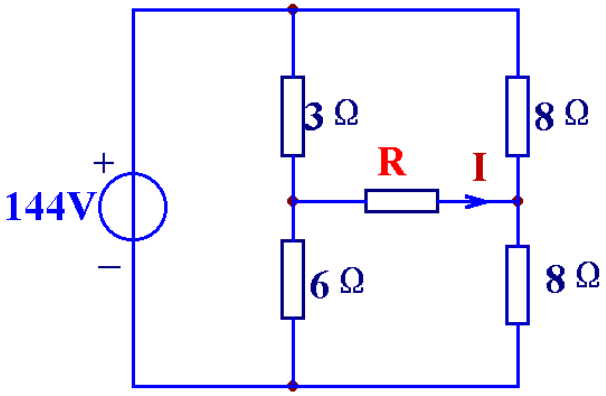
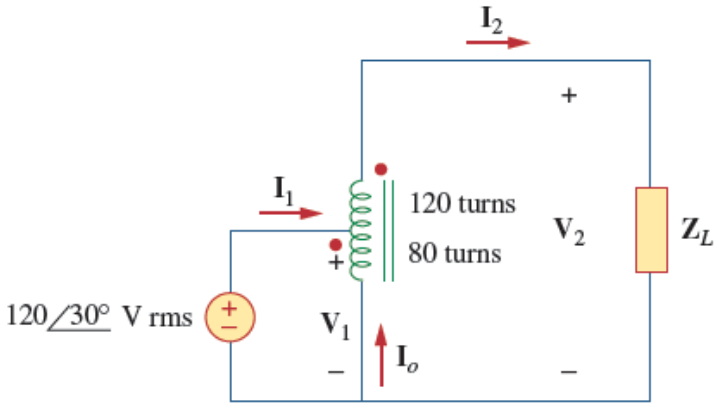
1. Find the current I_1 and I_2 in the following circuit using nodal analysis or mesh analysis.



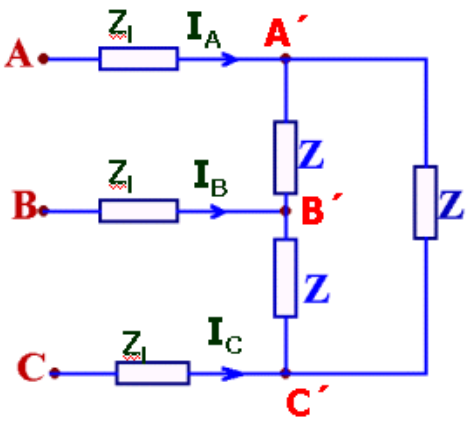
2. **Find the current I and the power absorbed by the resister if (a) R=2Ω,(b)R= 6 Ω,(c)R=18 Ω.**



3. In the following circuit, calculate:(a)I_1, I_2 and I_0 if $Z_L = 8 + j6\Omega$,(b)the avrage power supplied to the load Z_L.



4. **In the following balanced three-phase circuit, suppose the line voltage U_l=380V，Z=18+j15Ω，Z_l =3+j4Ω，find the current I_A, I_B, I_C.**



5. In the following circuit, find the load impedance Z_L that absorbs the maximum average power.Calculate: (1) the Thevenen equivalent at the load terminals(the subcircuit except Z_L),(2) the maximum average power .