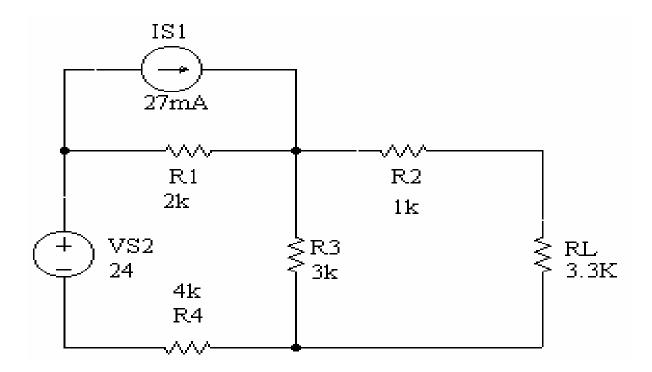


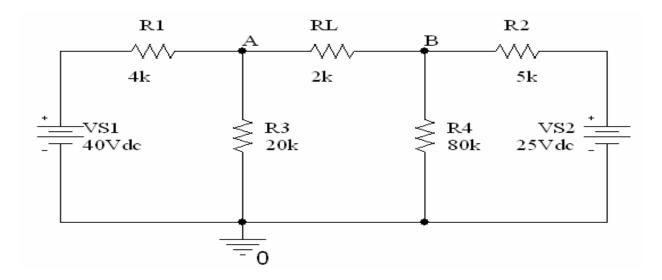
$$V_{TH} = 12 R_{TH} = 11 V_L = 3.75 I_L = 0.75$$

$$I_N \! = 1.09 \; R_N = 11 \quad V_L \! = 3.75 \quad I_L \! = 0.75$$

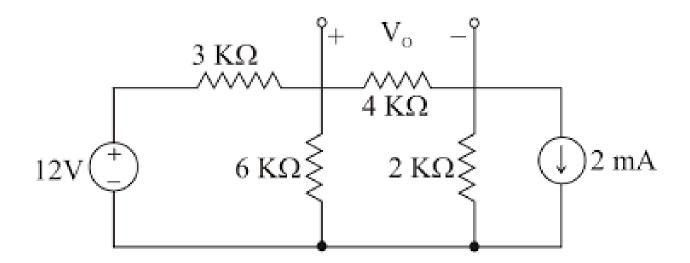
$$R_{eq} = 15.05 \ V_s = 48 \ I_S = 3.18 \ V_L = 3.75 \ I_L = 0.75$$



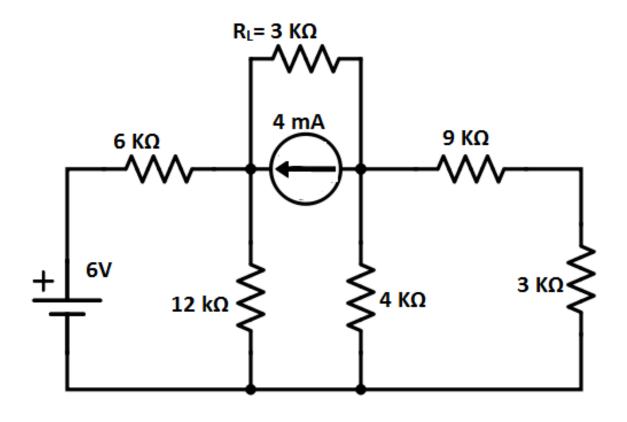
$$V_{TH}^{I} = 8$$
 $V_{TH}^{II} = 18$ $V_{TH} = 26$ $R_{TH} = 3$ $V_{L} = 13.61$ $I_{L} = 4.12$
 $I_{N}^{I} = 2.66$ $I_{N}^{II} = 6$ $I_{N} = 8.66$ $R_{N} = 3$ $V_{L} = 13.61$ $I_{L} = 4.12$
 $R_{eq} = 7.76$ $V_{s} = 24$ $I_{s} = 3.08$ $I_{L}^{I} = 1.26$ $V_{L}^{I} = 4.19$ $V_{L} = 13.6$
 $R_{eq} = 1.48$ $I_{s} = 27$ $V_{s} = 40.09$ $I_{L}^{II} = 2.85$ $V_{L}^{II} = 9.42$ $I_{L} = 4.12$



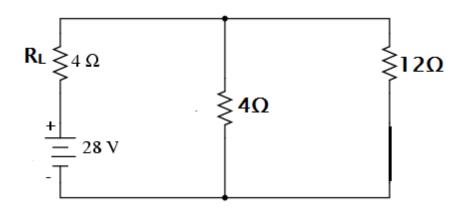
$$V_{TH}^{I} = 33.33 V_{TH}^{II} = 23.52 V_{TH} = 9.81 R_{TH} = 8.03 V_{L} = 1.94 I_{L} = 0.97$$
 $I_{N}^{I} = 4.14 I_{N}^{II} = 2.92 I_{N} = 1.21 R_{N} = 8.03 V_{L} = 1.94 I_{L} = 0.97$
 $R_{eq} = 9.01 V_{s} = 40 I_{s} = 4.43 I_{L}^{I} = 3.31 V_{L}^{I} = 6.62 V_{L} = 1.94$
 $R_{eq} = 10 V_{s} = 25 I_{s} = 2.5 I_{L}^{II} = 2.34 V_{L}^{II} = 6.68 I_{L} = 0.97$



$$V_{TH}^{I} = 8 V_{TH}^{II} = 4 V_{TH} = 12 R_{TH} = 4 V_{L} = 6 I_{L} = 1.5$$
 $I_{N}^{I} = 2 I_{N}^{II} = 1 I_{N} = 3 R_{N} = 4 V_{L} = 6 I_{L} = 1.5$
 $R_{eq} = 6 V_{s} = 12 I_{s} = 2 I_{L}^{I} = 1 V_{L}^{I} = 4$
 $V_{L} = 6$
 $R_{eq} = 1.5 I_{s} = 2 V_{s} = 3 I_{L}^{II} = 0.5 V_{L}^{II} = 2$
 $V_{L} = 1.5$



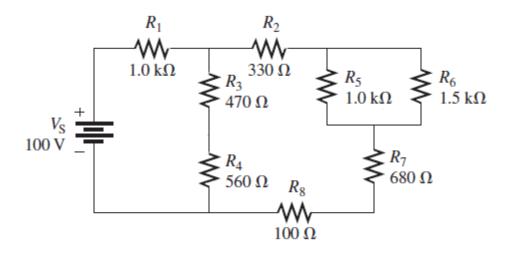
$$V_{TH}^{I} = 4 V_{TH}^{II} = 28 \text{ V}_{TH} = 32 \text{ R}_{TH} = 7 \text{ V}_{L} = 9.6 \text{ I}_{L} = 3.2$$
 $I_{N}^{I} = .57 I_{N}^{II} = 4 \text{ I}_{N} = 4.57 \text{ R}_{N} = 7 \text{ V}_{L} = 9.6 \text{ I}_{L} = 3.2$
 $R_{eq} = 10 \text{ V}_{s} = 6 \text{ I}_{s} = .6 I_{L}^{I} = .4 V_{L}^{I} = 1.2 \text{ V}_{L} = 9.6$
 $R_{eq} = 2.1 \text{ I}_{s} = 4 \text{ V}_{s} = 8.4 I_{L}^{II} = 2.8 V_{L}^{II} = 8.4 \text{ I}_{L} = 3.2$



$$V_{TH} = 28 R_{TH} = 3 V_{L} = 16 I_{L} = 4$$

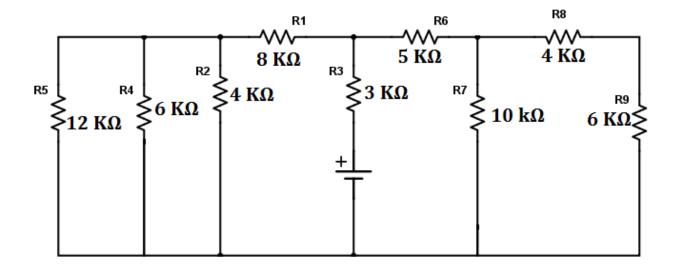
$$I_N = 9.33 R_N = 3 V_L = 16 I_L = 4$$

$$R_{eq} = 7 \ V_s = 28 \ I_S = I_L = 4 \ V_L = 16$$



$$V_{TH} = 50.73 R_{TH} = 1573 V_L = 15.55 I_L = .022$$

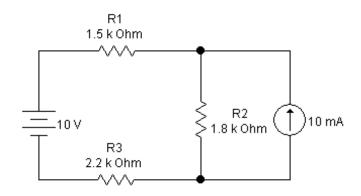
 $I_N = 33.00 R_N = 1573 V_L = 15.55 I_L = .022$
 $R_{eq} = 1642 V_s = 100 I_S = .609 V_L = 15.55 I_L = .022$



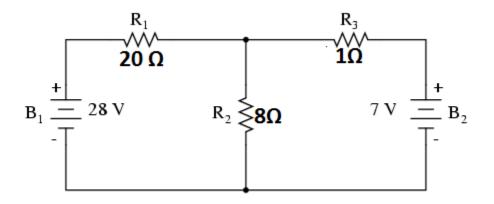
$$V_{TH} = 6.94 R_{TH} = 2.32 V_L = 5 I_L = 0.8333$$

$$I_N = 33.00 \ R_N = 2.32 \ V_L = 5 \ I_L = 0.8333$$

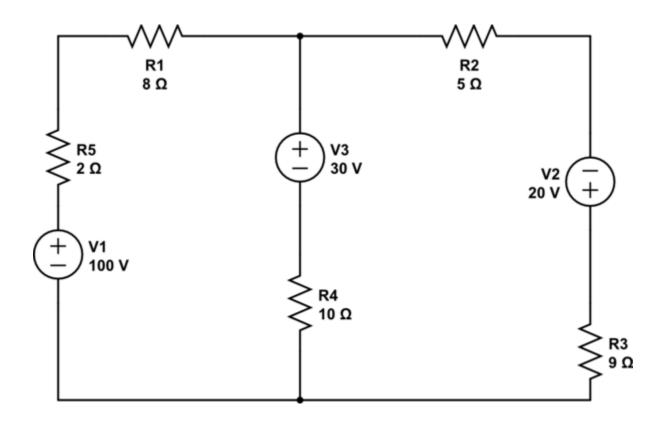
$$R_{eq} = 8 \ V_s = 40 \ I_S = 5 \ V_L = 5 \ I_L = 0.8333$$



$$V_{TH}^{I} = 10 V_{TH}^{II} = 37 V_{TH} = 47 R_{TH} = 3.7 V_{L} = 15.38 I_{L} = 8.54$$
 $I_{N}^{I} = 2.7 I_{N}^{II} = 10 I_{N} = 12.7 R_{N} = 3.7 V_{L} = 15.38 I_{L} = 8.54$
 $R_{eq} = 5.5 V_{s} = 10 I_{S} = I_{L}^{I} = 1.818 V_{L}^{I} = 3.27$
 $V_{L} = 15.38$
 $V_{L} = 15.38$
 $V_{L} = 15.38$
 $V_{L} = 15.38$



$$V_{TH}^{I} = 1.33 V_{TH}^{II} = 6.66 V_{TH} = 8 R_{TH} = 0.95 V_{L} = 7.15 I_{L} = 0.893$$
 $I_{N}^{I} = 1.4 I_{N}^{II} = 7 I_{N} = 8.4 R_{N} = 0.95 V_{L} = 7.15 I_{L} = 0.893$
 $R_{eq} = 20.88 V_{s} = 28 I_{s} = 1.34 I_{L}^{I} = 0.148 V_{L}^{I} = 1.19 V_{L} = 7.15$
 $R_{eq} = 6.71 V_{s} = 7 I_{s} = 1.042 I_{L}^{II} = 0.744 V_{L}^{II} = 5.95 I_{L} = 0.893$



$$V_{TH}^{I} = 58.33 V_{TH}^{II} = 8.33 V_{TH}^{III} = 30 V_{TH} = 20 R_{TH} = 5.833 V_{L} = 12.6 I_{L} = 1.26$$

$$I_{N}^{I} = 10 I_{N}^{II} = 1.42 I_{N}^{III} = 5.14 I_{N} = 3.43 R_{N} = 5.833 V_{L} = 12.6 I_{L} = 1.26$$

$$R_{eq} = 15.833 V_{s} = 100 I_{s} = 6.31 I_{L}^{I} = 3.68 V_{L}^{I} = 36.8$$

$$R_{eq} = 19 V_{s} = 20 I_{s} = 1.05 I_{L}^{II} = 0.52 V_{L}^{II} = 5.2$$

$$R_{eq} = 15.833 V_{s} = 30 I_{s} = 1.89 I_{L}^{III} = 1.89 V_{L}^{III} = 18.9$$