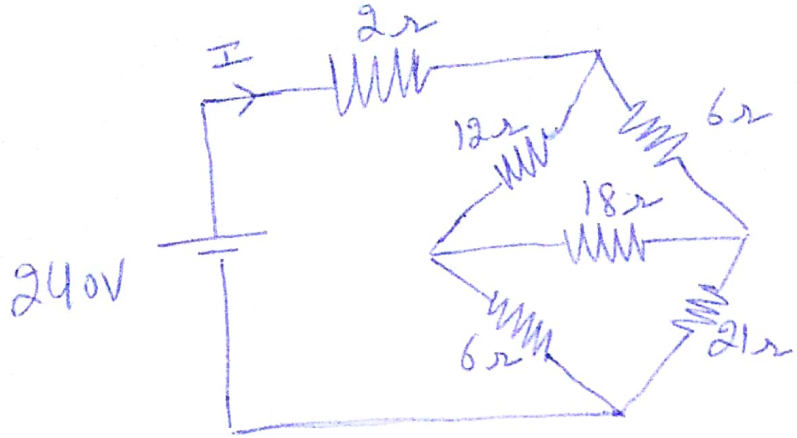
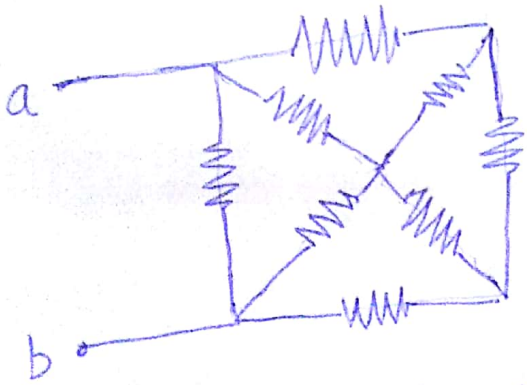
Tutorial No. 5

Q1 Find current I using Star Delta



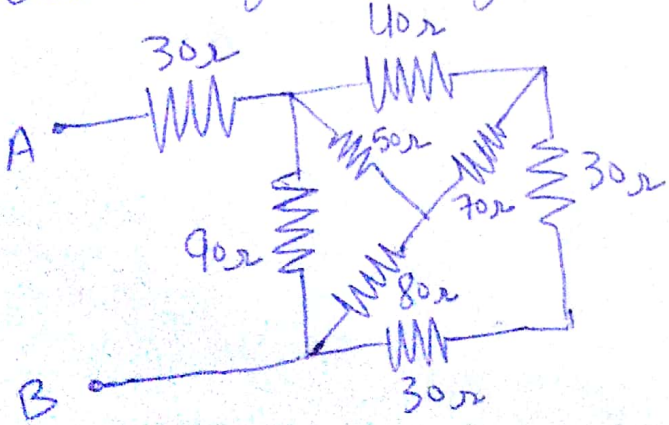
[20A]

Q2 Calculate equivalent resistance Rab when all resistances are equal to 1Ω.



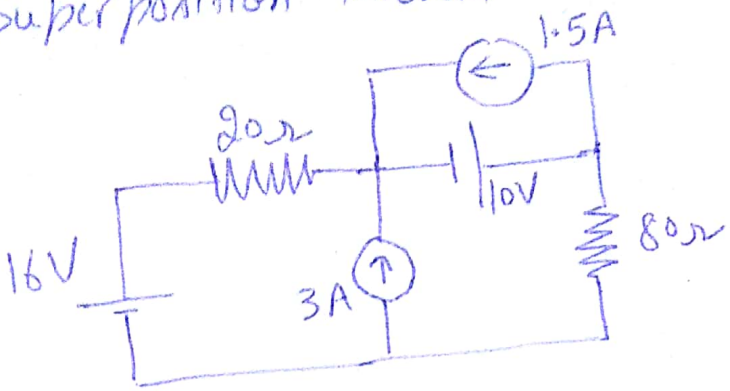
[8/15 Ω]

Q3 Using Star-Delta transformation, find resistance b/w A & B



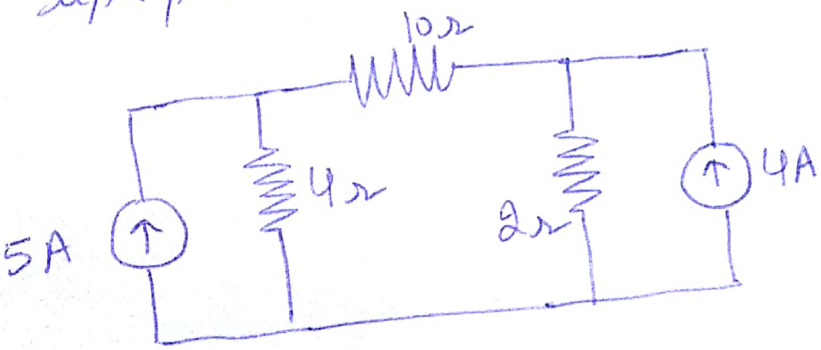
Tutorial No. 6

Q1. Determine the voltage across 20Ω resistance using Superposition Theorem



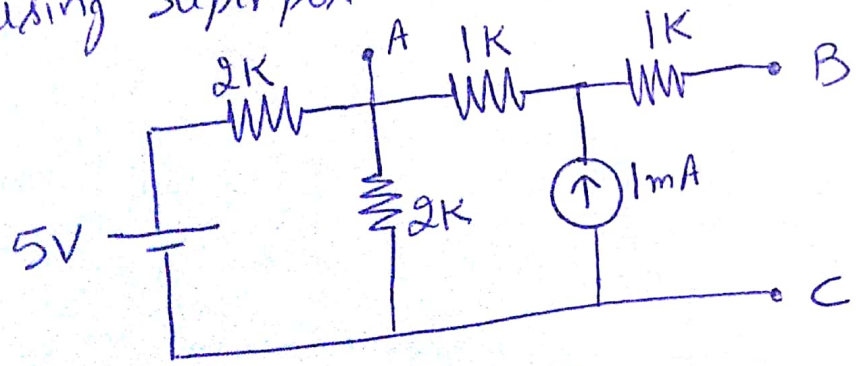
[42.8V]

Q2 Using Superposition determine the current in each branch



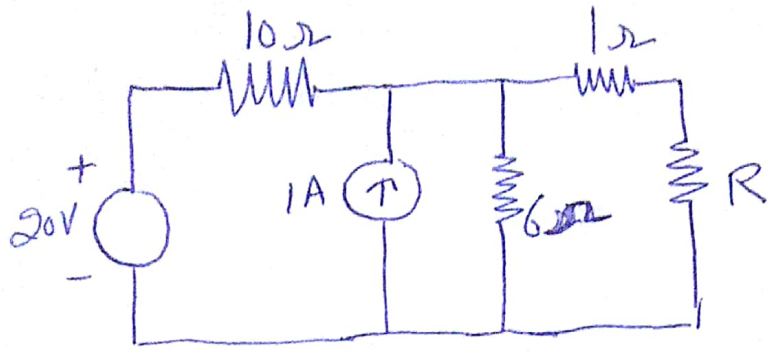
[4.25A, 0.75A, 4.75A]

Q3 For the circuit shown, find the voltage b/w B and C using Superposition



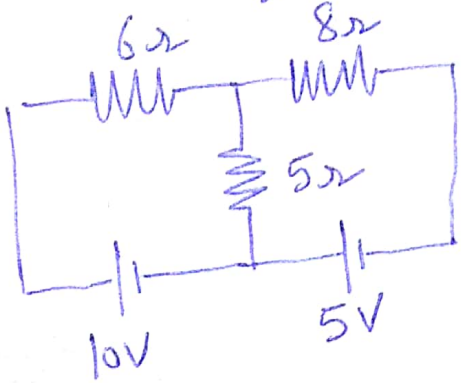
Tutorial No. 7

Q1 For the circuit shown below, find Thevenin's equivalent wrt load resistance R



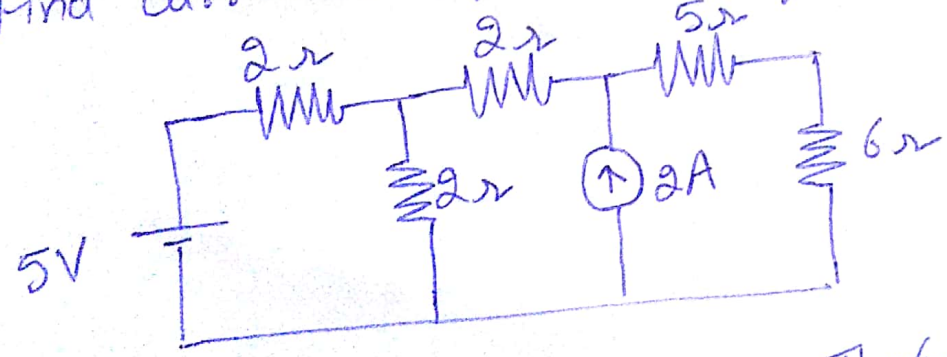
$\left[V_{oc} = \frac{45}{4} V,\ R_{Th} = \frac{19}{4} \Omega\right]$

Q2 Find current through 5Ω resistance using Thevenin's Theorem



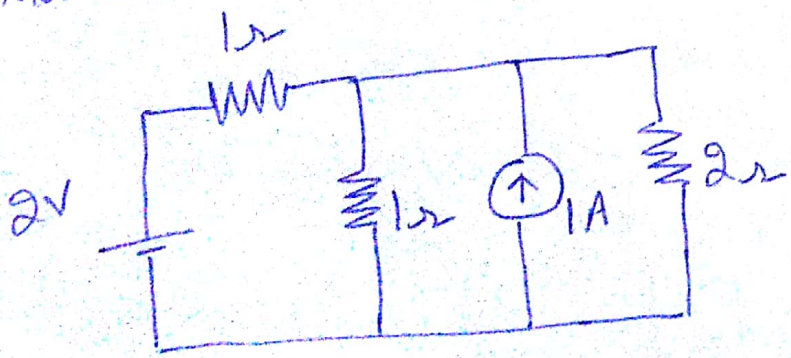
[0.4236 A]

Q3 Find current through 6Ω using Thevenin's Theorem



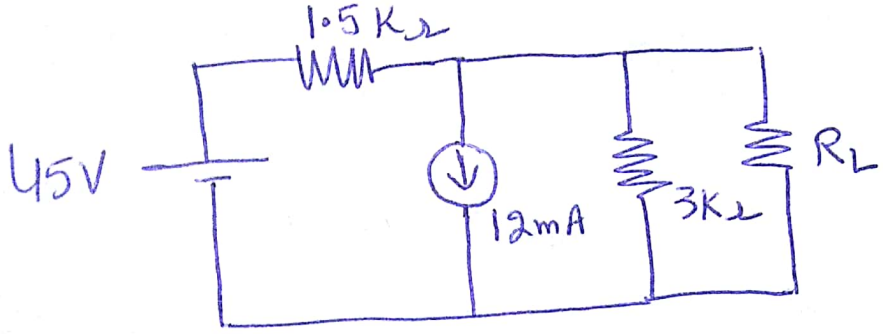
[0.60 A]

Q4 Find current through 2Ω using Thevenin's Theorem



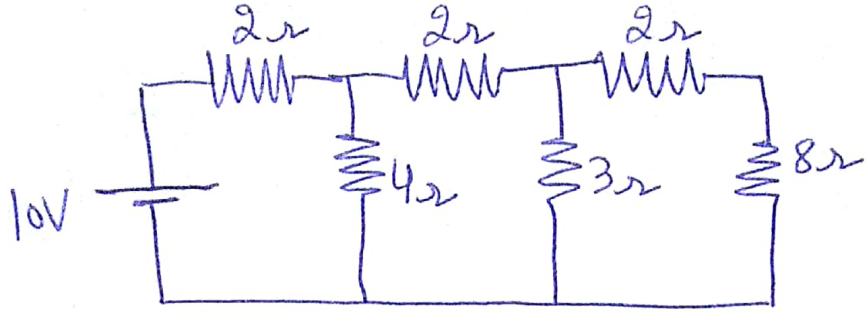
[0.4 A]

Q5 How Norton's Theorem is equivalent to Thevenin's Theorem? Also write the limitations of Thevenin's Theorem. Find the voltage across load resistance R_L using Thevenin's Theorem when load resistance is 2 KΩ



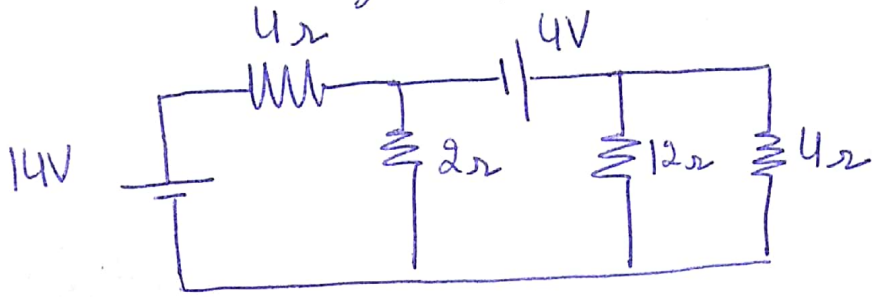
Tutorial No. 8 and 9

Q1 Find out current through 8Ω resistance using Norton's Theorem.



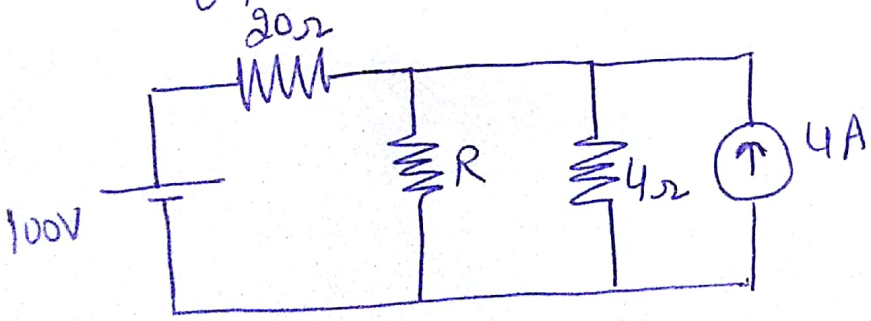
[0.2728A]

Q2 Calculate the voltage drop across 12Ω using Norton's Theorem



[6V]

Q3 For the circuit shown below, find the value of R for max. power transfer and also find out maximum value of power.



[3.33Ω
67.507W]

Q4 For the circuit shown, derive the Thevenin's & Norton's equivalent wrt. load resistance R.