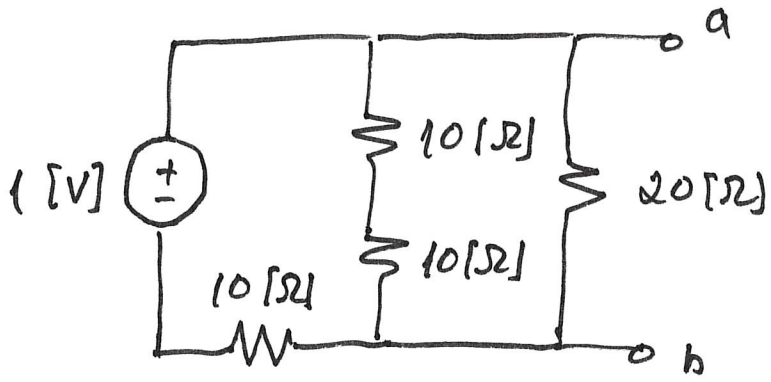
Circuit Busters (Pt.1) !

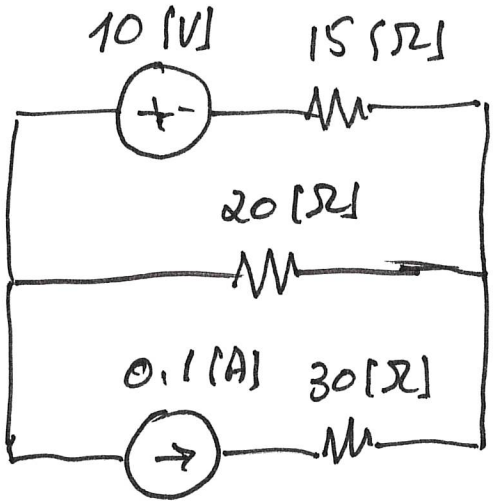
Complete these problems using only KVL, KCL, and Ohm's Law. Do not use Node Voltage or Mesh Current methods.

The purpose of doing these problems is to improve our basic circuit solving skills. Even if we use node voltage or mesh current methods to solve more complex circuits, it is usually the case that we still must do a KVL or KCL or two to complete the problem.

1. Find the Thevenin Equivalent at terminals a, b.



2. Find the Norton Equivalent seen by the 15 [Ω] resistor.

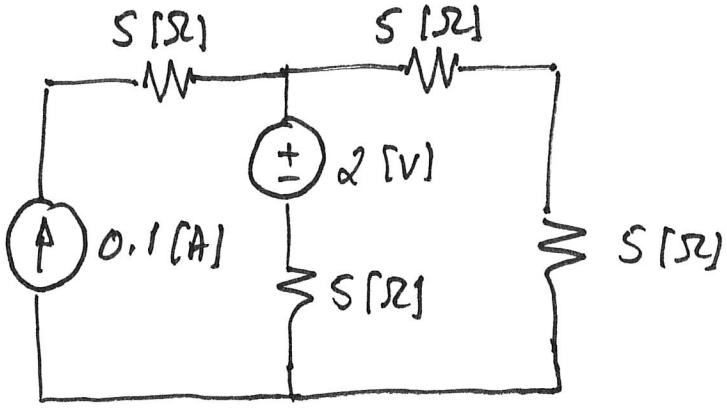


Circuit Busters (Pt.2) !

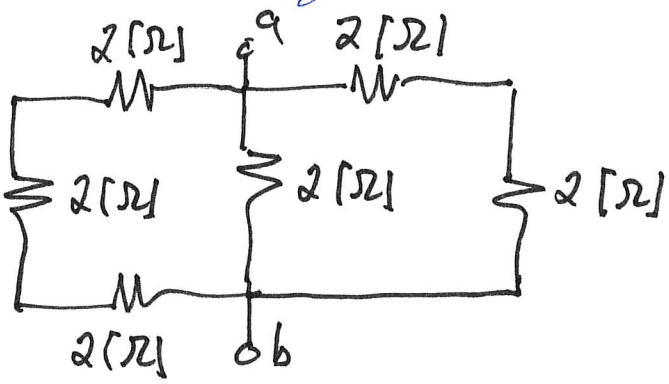
Complete these problems using only KVL, KCL, and Ohm's Law. Do not use Node Voltage or Mesh Current methods.

The purpose of doing these problems is to improve our basic circuit solving skills. Even if we use node voltage or mesh current methods to solve more complex circuits, it is usually the case that we still must do a KVL or KCL or two to complete the problem.

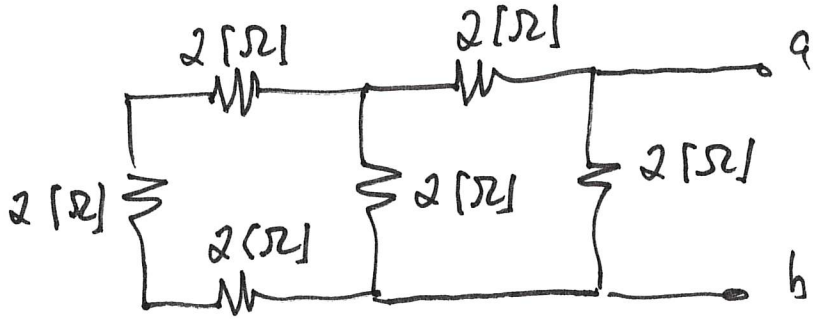
1. Find the Norton Equivalent seen by the current source.



2a. Find the Thevenin Equivalent at terminals a, b.



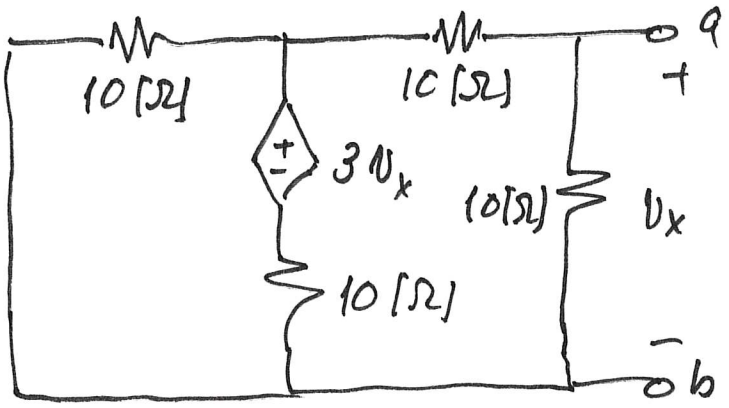
2b.



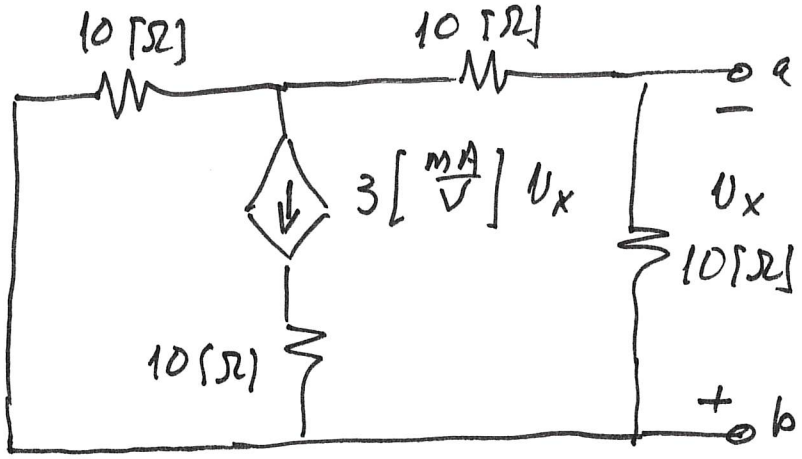
Circuit Busters Pt. 2

3.

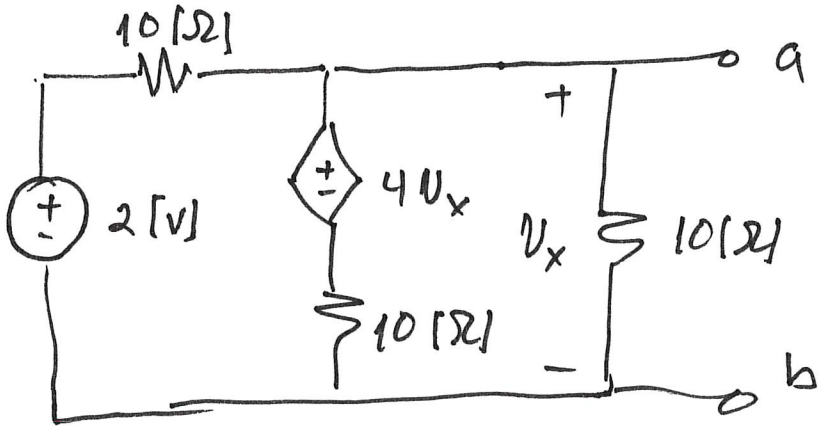
4. Find the Thevenin Equivalent at terminals a, b.



4. Find the Thevenin Equivalent at terminals a, b.

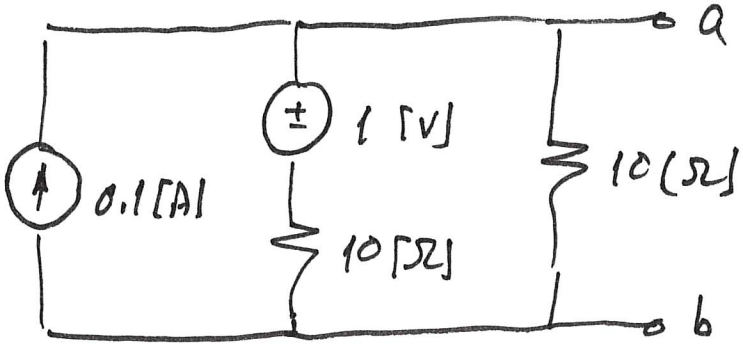


5. Find the Norton Equivalent at a, b.

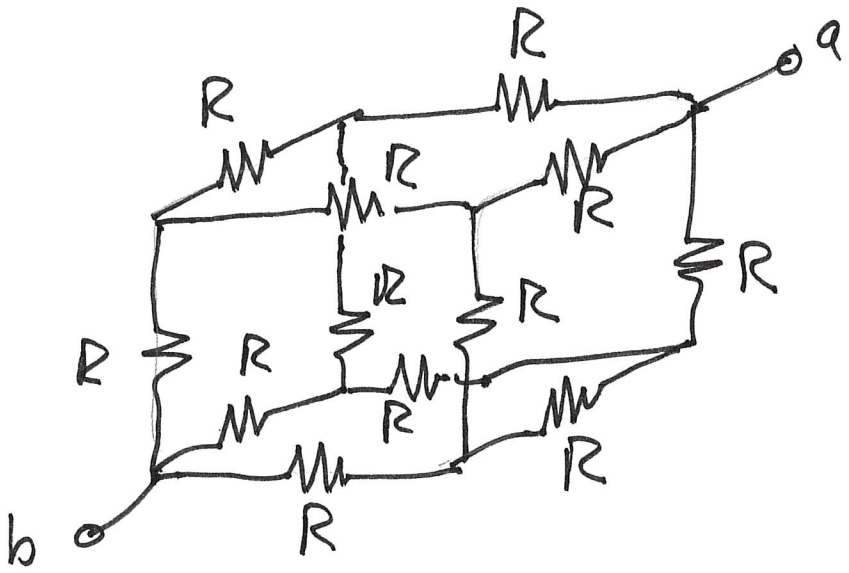


Circuit Busters Pt. 2

6. Find the Norton Equivalent at a, b.



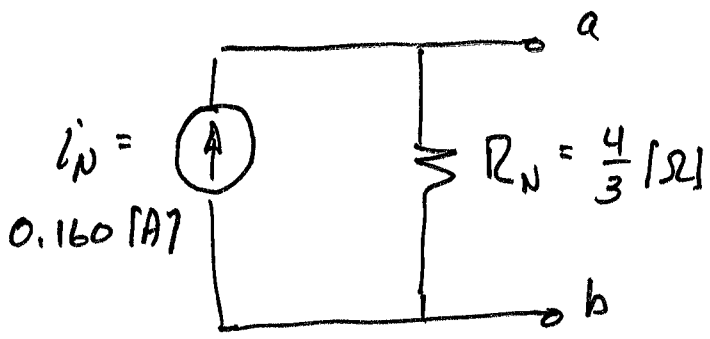
7. Find the equivalent resistance at terminals a, b.



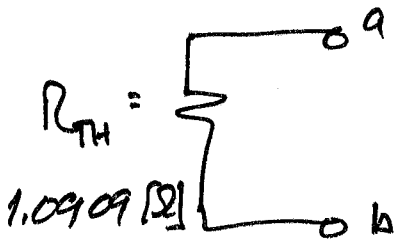
$R = 1\ [\Omega]$

Circuit Busters (Pt.2) Solutions

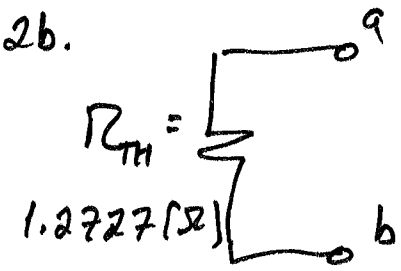
1.



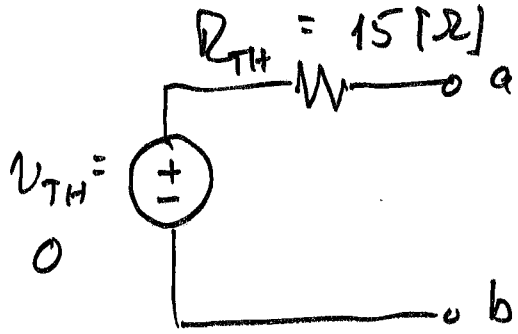
2a



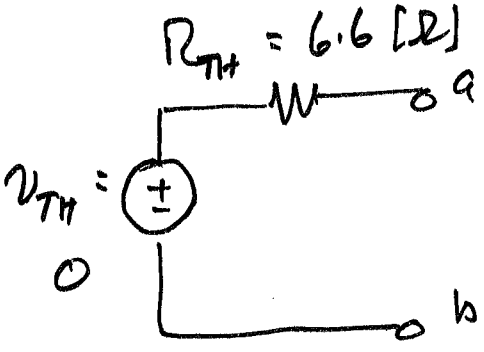
2b.



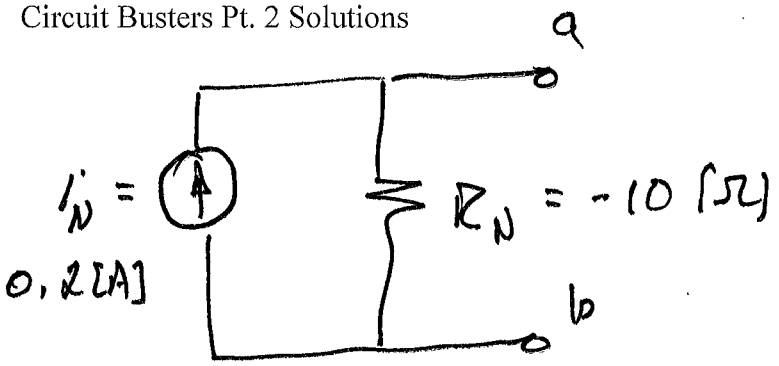
3.



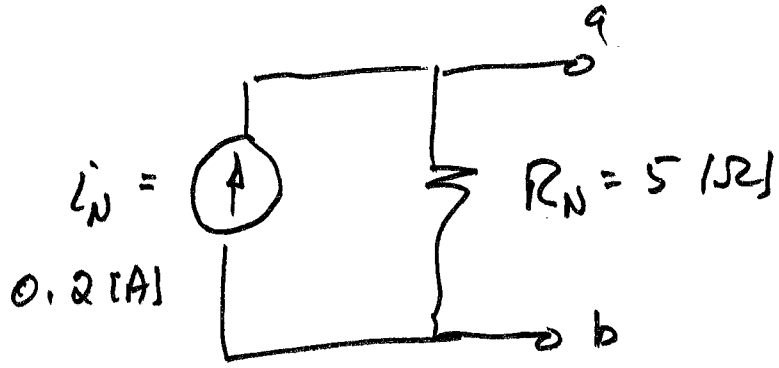
4.



5.



6.



7. $R_{ab} = \frac{5}{6}$ [Ω]