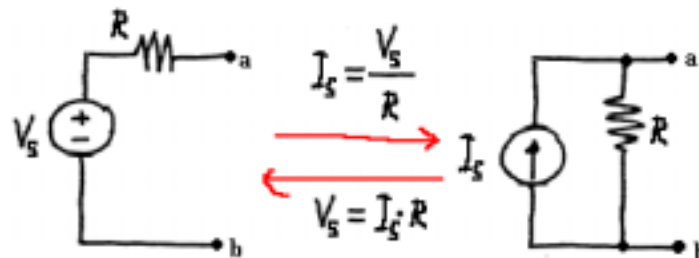


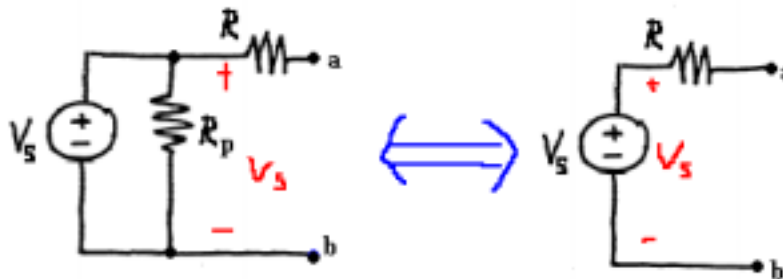
## Class note 17: Source Transformation

1. "Source Transformation" is a tool for circuit simplification.
2. "A voltage source in series with a resistor"  $\Leftrightarrow$  "A current source in parallel with the same resistor"

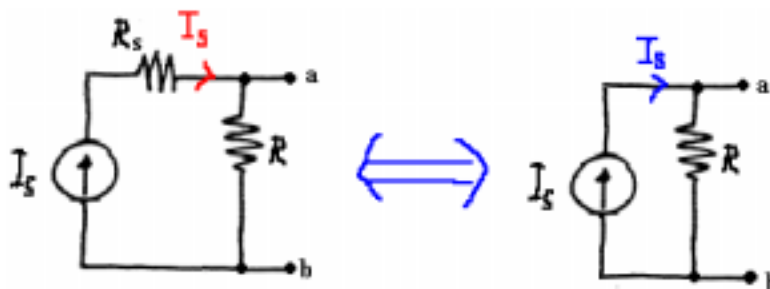


3. Special cases in source transformation:

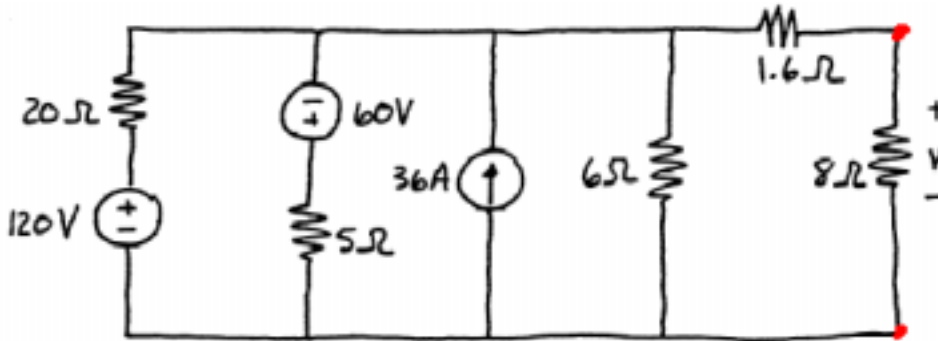
(a) A parallel resistor with a voltage source has no effect on the voltage.



(b) A series resistor with a current source has no effect on the current.

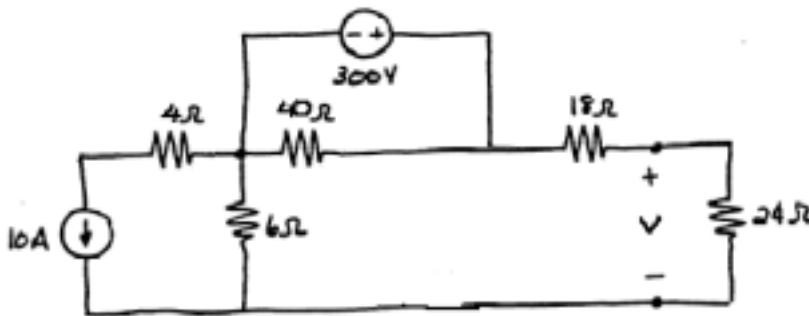


4. Example 1: Find  $V$  from the circuit using a series of source transformations.



**SOLUTION**

5. Example 2: (Does this include a special case of source transformation): Find  $V$  by applying a series of source transformations.



**SOLUTION**