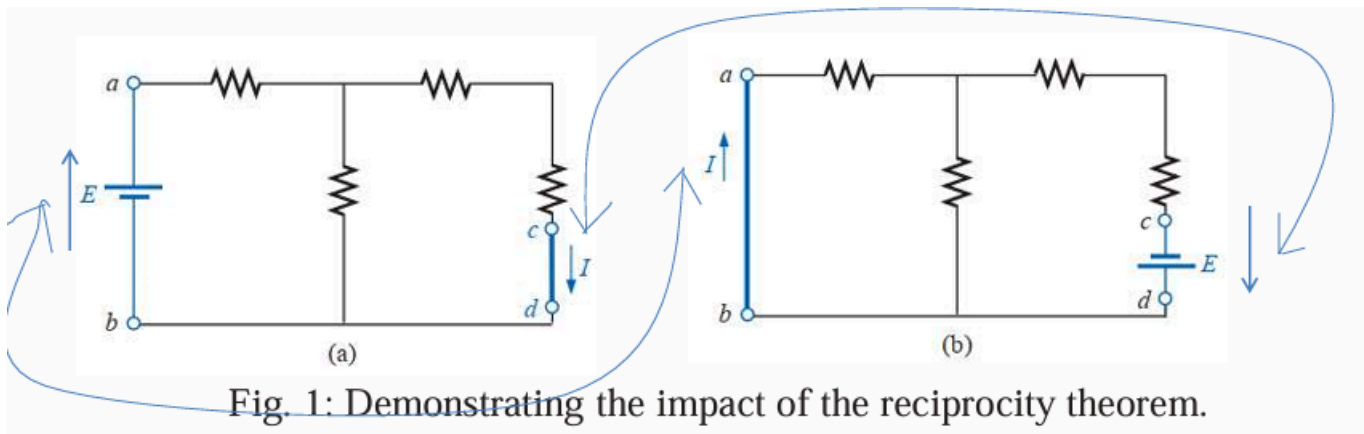


18 - Reciprocity

The reciprocity theorem is applicable only to single-source networks



- Current I due to voltage source E was determined in figure (a)
- Position of each (I and E) is interchanged in figure (b)
- Current I will be the same value in both circuit as indicated
- The theorem requires that the polarity of the voltage source have the same correspondence with the direction of the branch current in each position

Reciprocity Theorem

The current I in any branch of a network, due to a single voltage source E anywhere else in the network, will equal the current through the branch in which the source was originally located if the source is placed in the branch in which the current I was originally measured