• Use the superposition theorem to find the value of variables opecified in the following circuits.



- Thevenin's Theorem
 It often occurs in practice that a particular element in pacticult is variable (usually called the *load*) while other elements are fixed.
- As a typical example, a household outlet terminal may be connected to different appliances constituting a variable load.
- Each time the variable element is changed, the entire circuit has to be analyzed all over again.

 Norton's theorem states that a linear two-terminal oregit can be replaced by an equivalent circuit consisting of a current source I_N in parallel with a resistor R_N , where I_N is the short-circuit current through the terminals and R_N is the input or equivalent resistance at the terminals when the independent sources are turned off.

- The circuit in Frig! (a) caof 31 be peplaced by the one in Fig. (b).
 - From the knowledge of source transformation, the Thevenin and Norton resistances are equal; that is,

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$$R_N = R_{Th}$$



