

Concept Question 3-13: Section 3-6 offers three different approaches for finding R_{Th} . Which ones apply to circuits containing dependent sources?

Table 3-1: Properties of Thévenin/Norton analysis techniques.

To Determine	Method	Can Circuit Contain Dependent Sources?	Relationship
v_{Th}	Open-circuit v	Yes	$v_{Th} = v_{oc}$
v_{Th}	Short-circuit i (if R_{Th} is known)	Yes	$v_{Th} = R_{Th}i_{sc}$
R_{Th}	Open/short	Yes	$R_{Th} = v_{oc}/i_{sc}$
R_{Th}	Equivalent R	No	$R_{Th} = R_{eq}$
R_{Th}	External source	Yes	$R_{Th} = v_{ex}/i_{ex}$
$i_N = v_{Th}/R_{Th}; R_N = R_{Th}$			

The equivalent R method is not applicable for circuits containing dependent sources.