CO*nc*EPTUAL TOOLS

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Ref: Nilsson & Riedel, Rev 6, Prob 13.3

LAPLACE TRANSFORM
CIRCUITS
s-domain circuit elements
EXAMPLE

Find Thevenin equivalent of s-domain C model, above.

ans:

(Alternative s-domain C model)
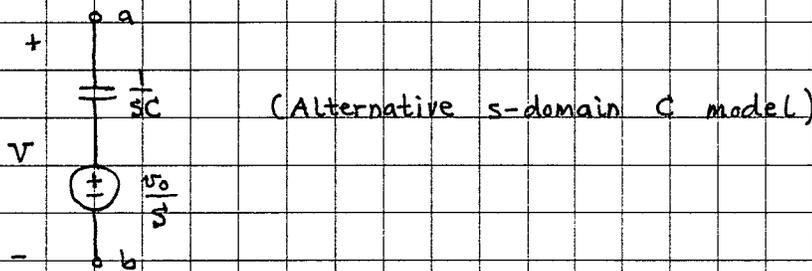
soln: V_{Th} = open circuit V, (i.e. nothing else connected
from a to b)

$$V_{Th} = C v_o \cdot \frac{1}{sC} \qquad (\text{from } V = I z)$$

$$= \frac{v_o}{s}$$

z_{Th} = $z_{a,b}$ with independent current source set to zero

$$z_{Th} = \frac{1}{sC} \qquad \left(\begin{array}{l} \text{or we could use} \\ z_{Th} = z_{Norton}, \text{ and given circuit is in Norton form.} \end{array} \right)$$