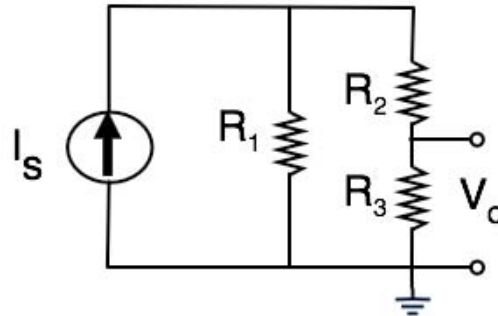


Problem Wk.9.3.2: Thevenin practice

Part 1: Thevenin

1. Consider the following circuit:



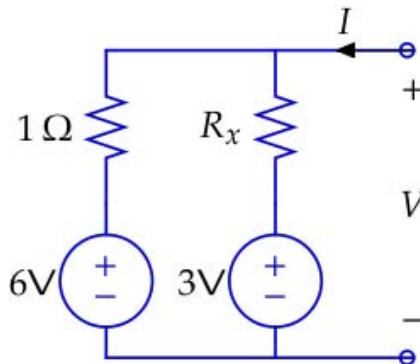
Assume $R_1 = R_2 = 10$ ohms each, $R_3 = 5$ Ohms and the current source $I_S = 10$ amps. What are the values of the Thevenin equivalent voltage and resistance as seen from the V_o port (where the ground node is treated as the negative terminal of the port)?

V_T

R_T

Part 2: Thevenin

1. This problem concerns Thevenin equivalent circuits for the following one-port circuit, viewed from the port labelled V and I .



Determine the short-circuit current if $R_x = 3$ Ohms.

$I_{sc} =$ Amps (as decimal number).

Note that I is the short circuit current, defined as going **into** the port.

Determine the Thevenin equivalent voltage (also called the open-circuit voltage) if $R_x = 3$ Ohms.

$V_{th} =$ Volts (as decimal number)

Determine R_x so that the Thevenin equivalent voltage is 4Volts.

$R_x =$ Ohms (as decimal number)

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