Laboratório de Eletricidade

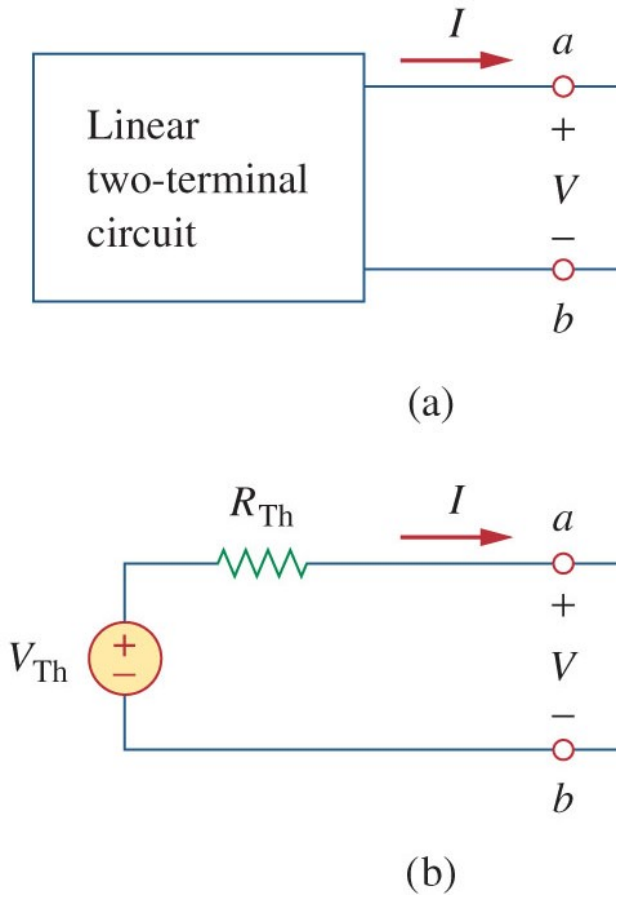
Prática 3 : Teorema de Thevenin e Norton

Prof. Carlos Renato Menegatti

Objetivos

- Demonstrar os Teoremas de Thevenin e Norton em um circuito específico de dois terminais a-b;
- Determinar as grandezas V_{Th}, R_{Th}, V_N e R_N do circuito;
- Introduzir cargas nos terminais **a** **b** e medir as tensões e correntes nas cargas.

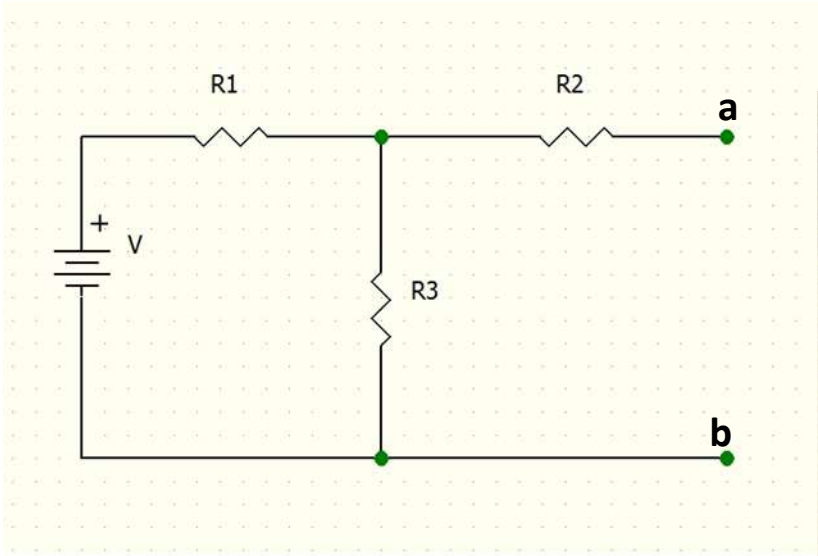
Conceitos teóricos: Teorema Thevenin

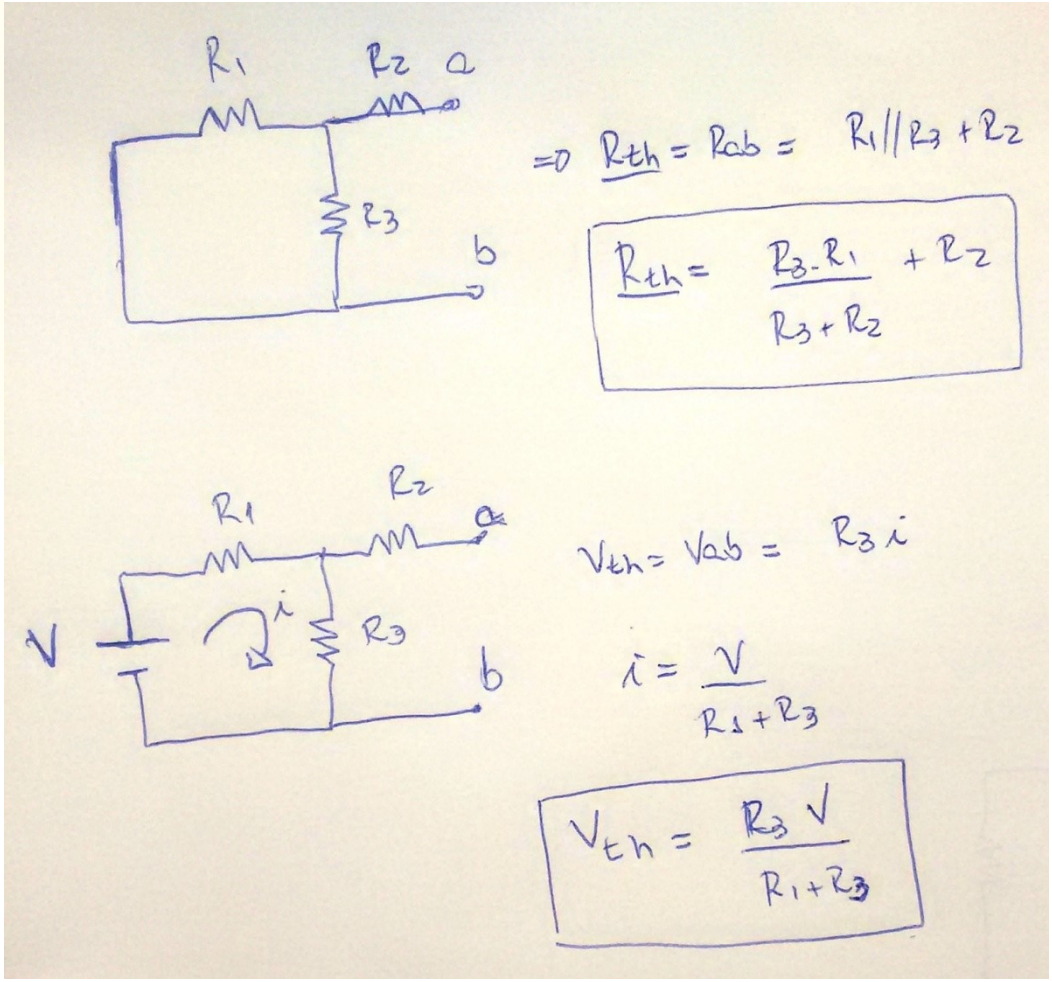


V_{Th} – Tensão de Thevenin

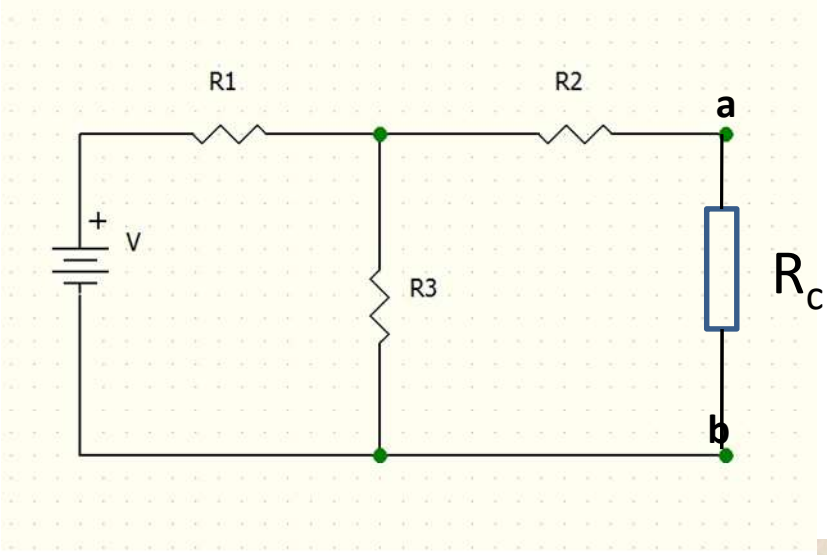
R_{Th} – Resistência de Thevenin

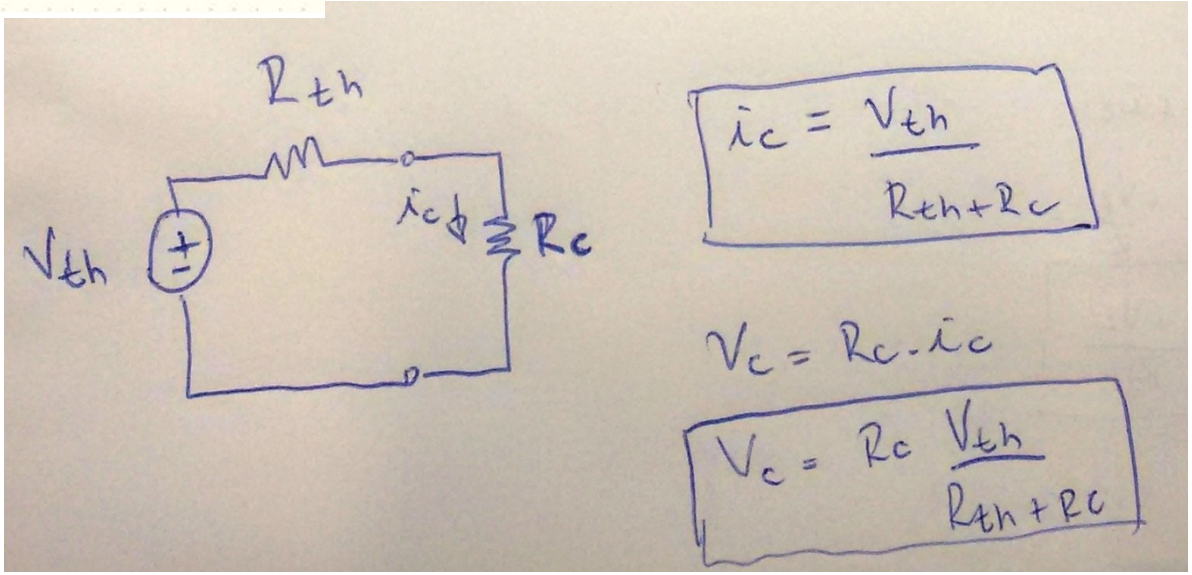
Circuito a ser estudado



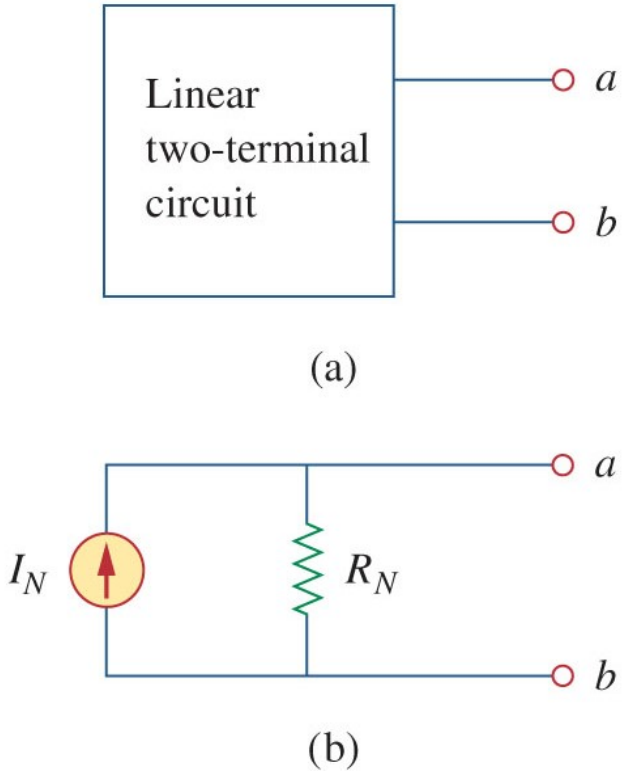


Conectando a carga em a-b





Teorema de Norton



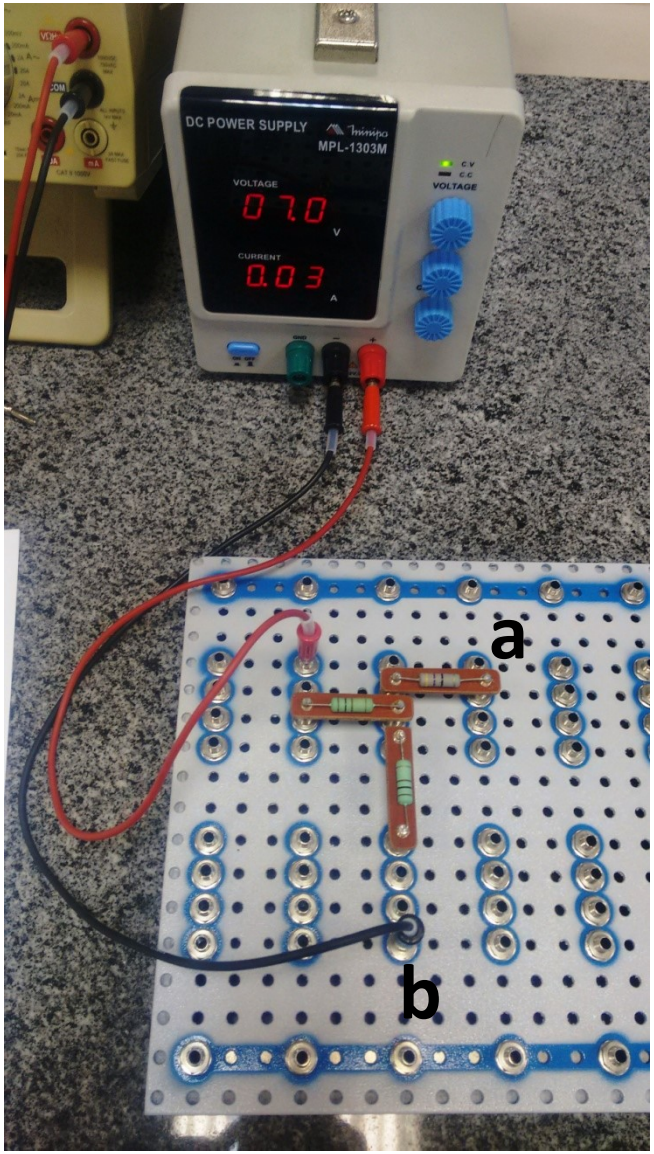
Circuito equivalente de Norton é uma transformação de fonte do circuito eq. de Thevenin!

-Faça trans. de fontes:

$R_N = R_{Th}$

$I_N = V_{Th}/R_{Th}$

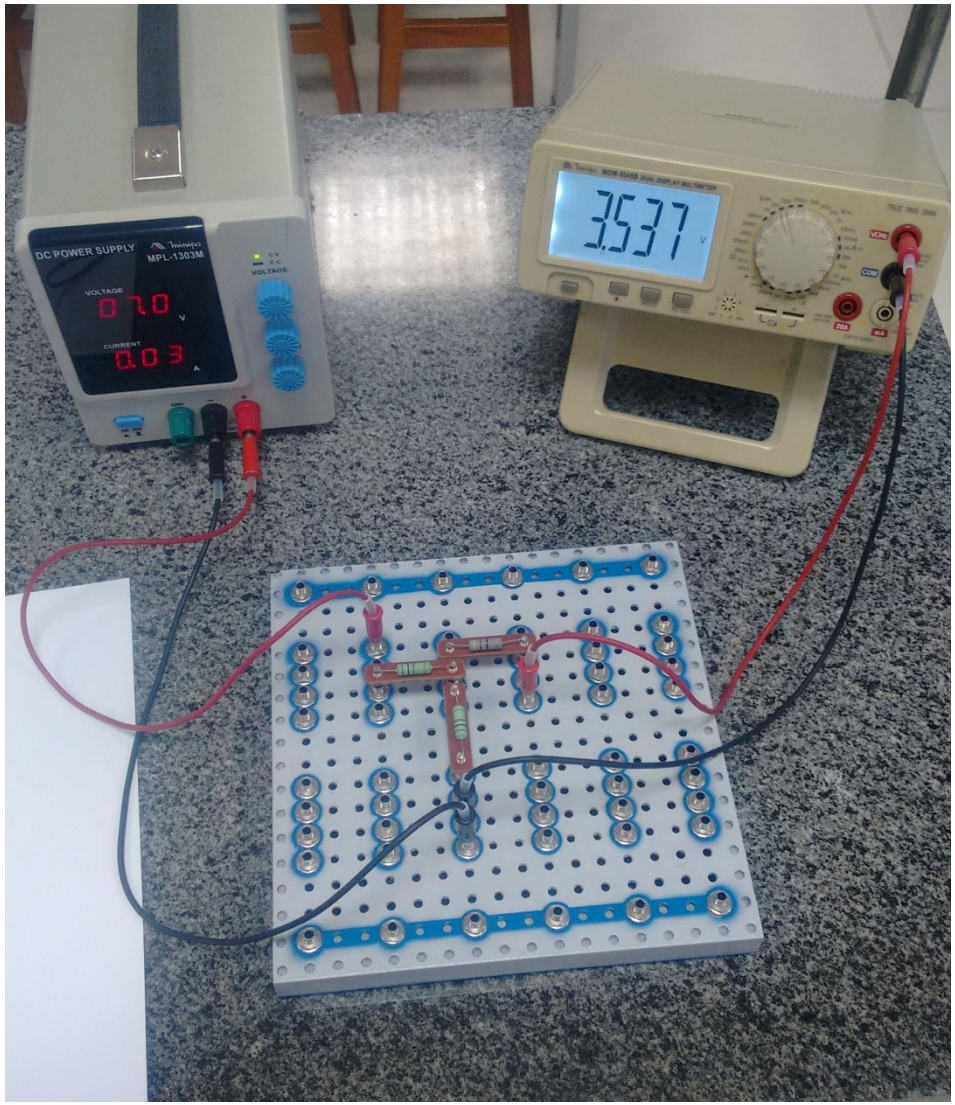
Procedimentos



R1 = 99,8 Ω
R2 = 47,3 Ω
R3 = 99,7 Ω

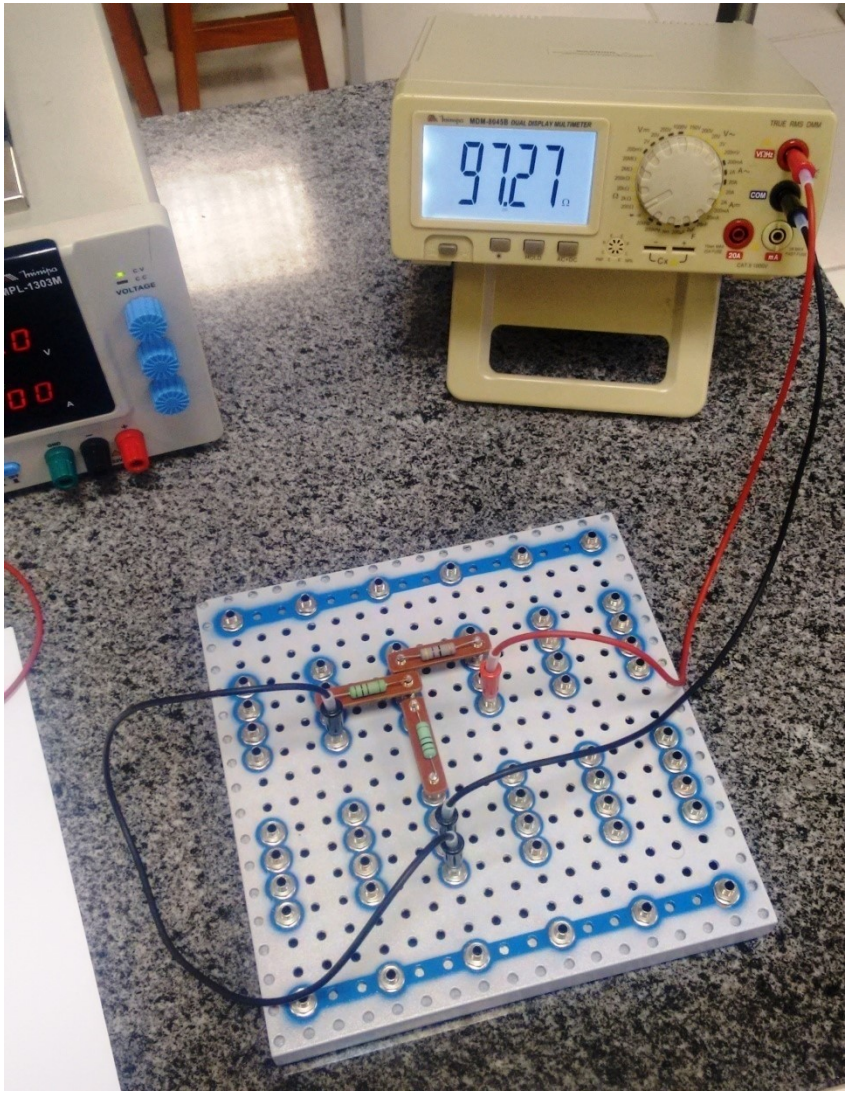
Item 3: V_{fonte} = 7,08 V

Procedimentos



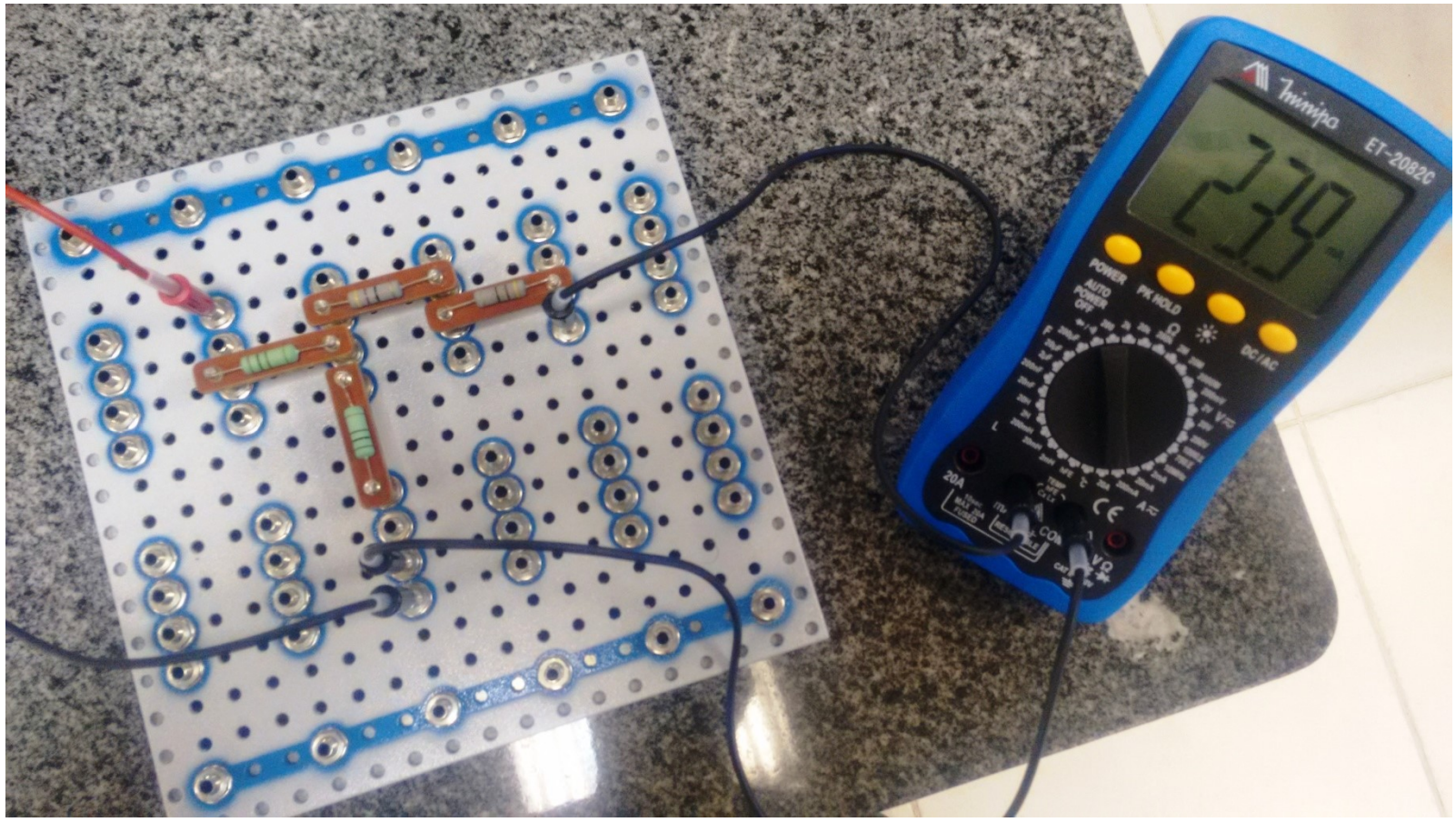
Item 4: V_{Th} = 3,54 V

Procedimentos



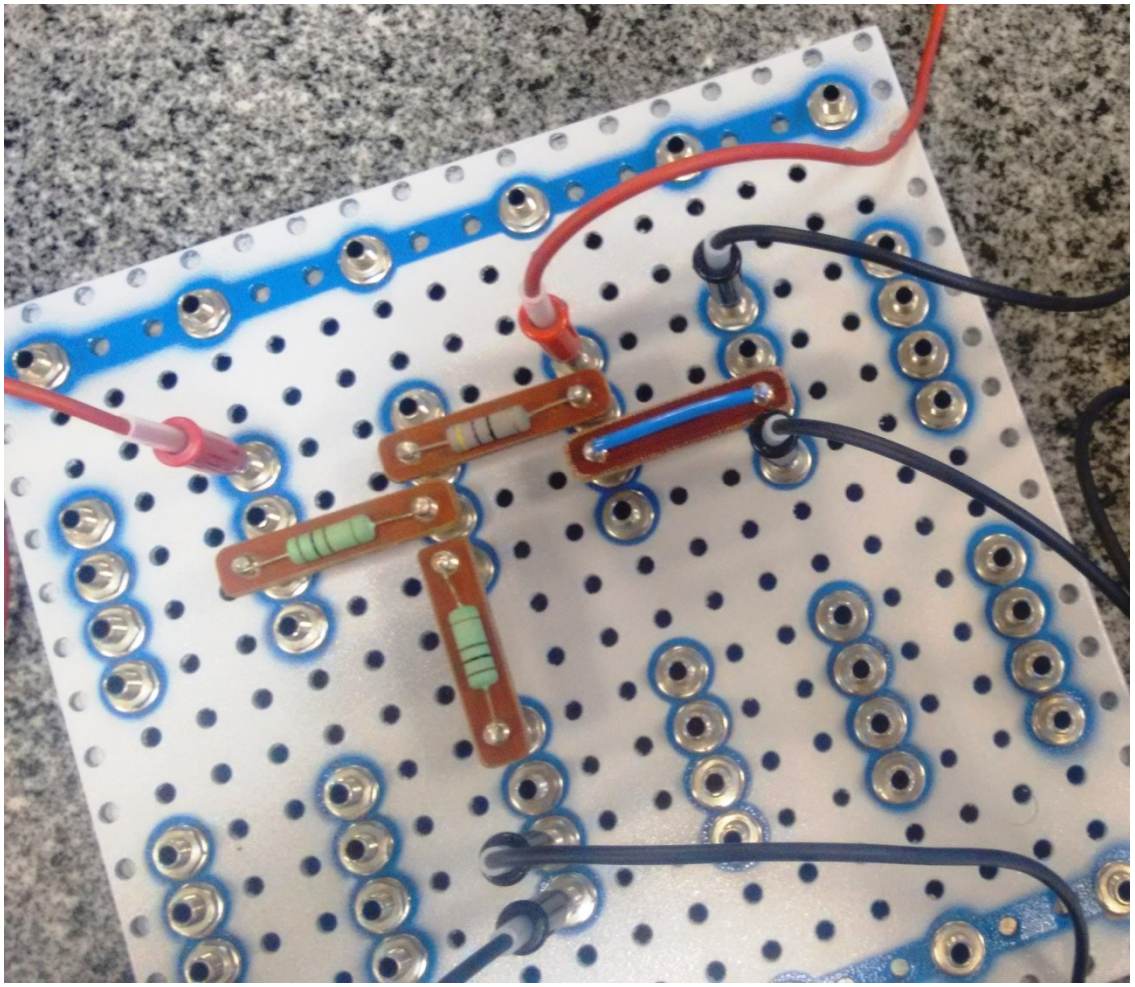
Item 5: R_{Th} = 97,3 Ω

Procedimentos



Item 8: R_c = 47 Ω i_c = 23,9 mA V_c = 1,13 V

Procedimentos



Item 8: $R_c = 0$ $i_c = 35{,}3$ mA $V_c = 0$

Trabalho

- Mesmo relatório que é feito em sala de aula;
- Enviar para o monitor (Tomas) em word ou pdf.