

# **RELATÓRIO PRÁTICO DE CIRCUITOS ELÉTRICOS 1**

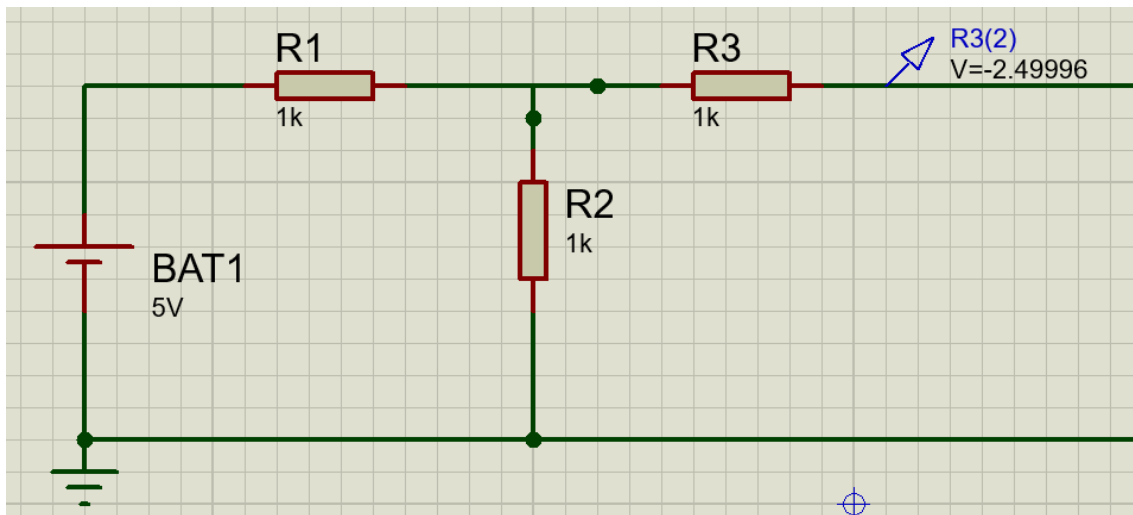
## **Prática 4**

### **Teorema de Thevenin**

**Guilherme Rodrigues do Santos - RA: 2199580**

**Luiz Eduardo Caldas Kramer - RA: 2199661**

1.0)

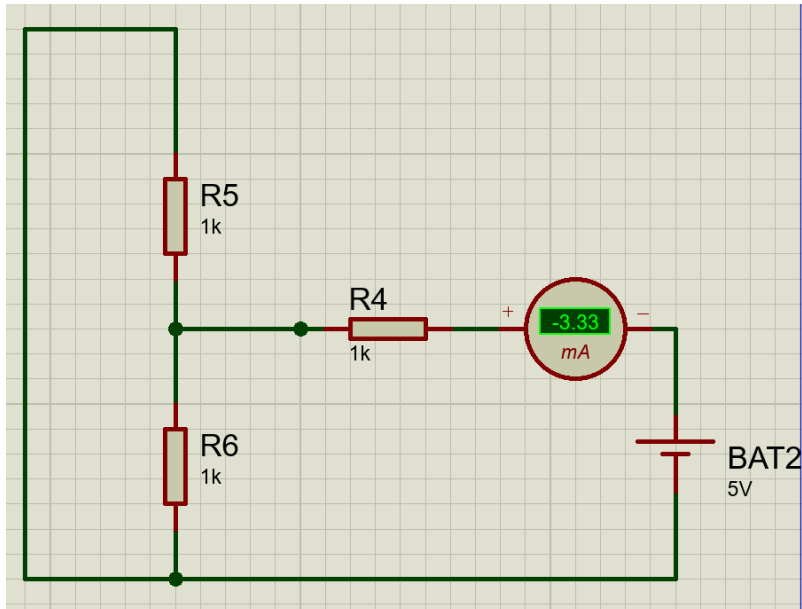


1.1)

$$R_{out} = R1 \parallel R2 \rightarrow R_{out} = \frac{R1R2}{R1+R2} = \frac{1k\Omega 1k\Omega}{1k\Omega + 1k\Omega} = \frac{1(k\Omega)^2}{2k\Omega} = 0.5k\Omega$$

$$R_{out} = 0.5k\Omega + 1k\Omega = \mathbf{1.5k\Omega}$$

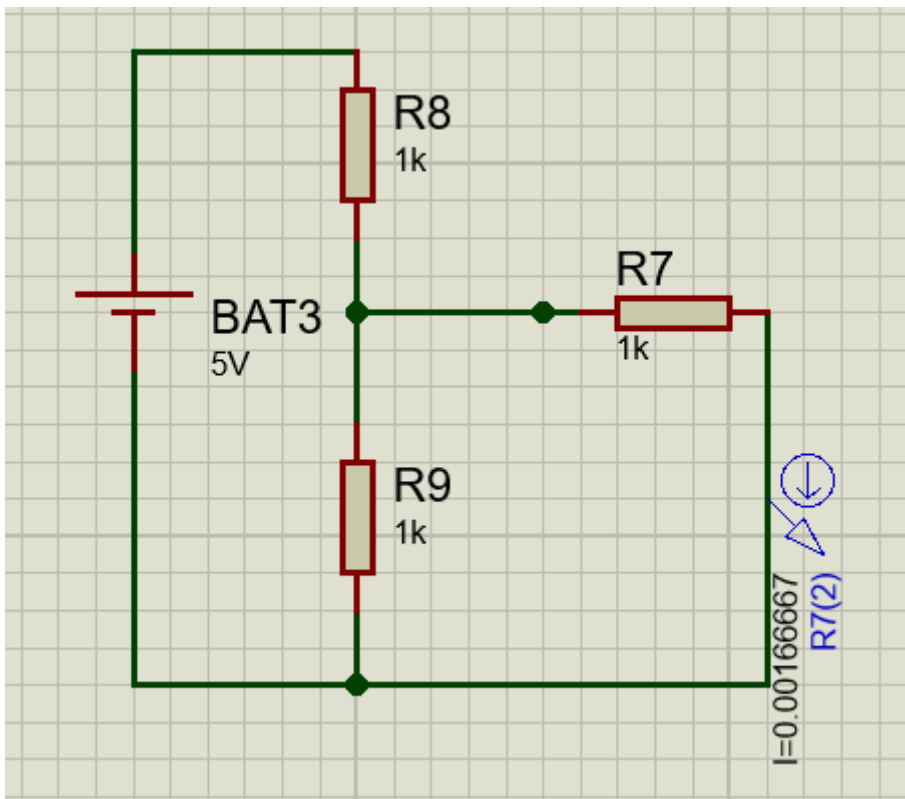
2)



$$R_{out} = \frac{V}{I_x} = \frac{5V}{3.33mA} = \mathbf{1.5k\Omega}$$

Em comparação com a etapa 1, as resistências encontradas são as mesmas.

3)



$$I_{sc} = 1.67\text{mA}$$

$$V_{oc} = 2.5\text{V}$$

$$R_{th} = \frac{V_{oc}}{I_{sc}} = \frac{2.5\text{V}}{1.67\text{mA}} = 1.5\text{k}\Omega, \text{ assim } R_{out} \text{ é equivalente a } R_{th}.$$