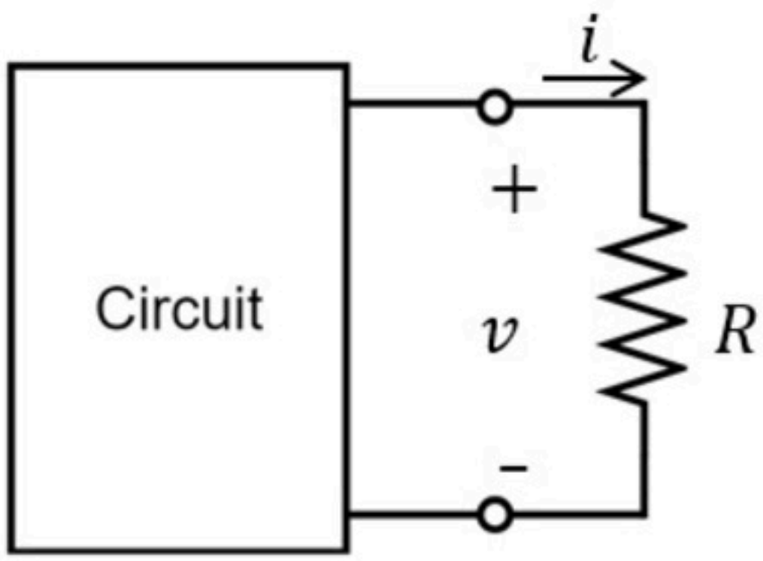
Circuit theorems 004

Unlimited Attempts.

The box contains a linear circuit.
When $R = R_1$, we measure $i = I_1$.
When $R = R_2$, we measure $i = I_2$.

What value of $R = R_3$ results in $i = I_3$?

What is the maximum value of $i = i_{max}$ that can be achieved (assuming of $R \geq 0$)?



Given Variables:

R1 : 1 ohm

R2 : 3 ohm

I1 : 10 A

I2 : 6 A

I3 : 2 A

Calculate the following:

R3 (ohm) :

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imax (A) :

Hint: Replace the circuit by its Thevenin model