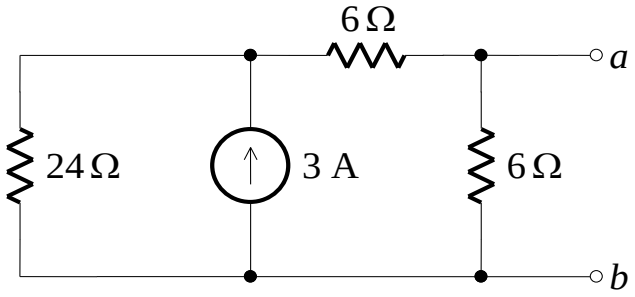
Thévenin's Theorem and Norton's Theorem

1.

Consider the circuit shown below:



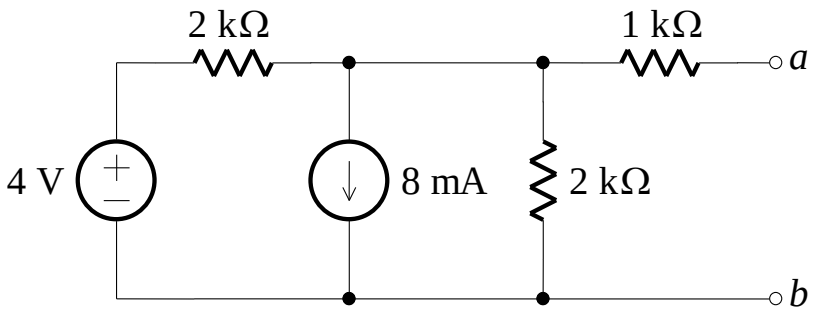
(a) Find the Thévenin and Norton equivalent circuits.

(b) For what value of load resistance is the power maximum?

(c) Find the maximum power that can be delivered to a load.

2.

Consider the circuit shown below:



(a) Find the Thévenin resistance, R_{Th}.

(b) Find the Thévenin voltage, V_{Th}.

(c) Find the Norton current, I_N.

(d) Draw the Thévenin and Norton equivalent circuits.

(e) Find the load current if a $4\,\text{k}\Omega$ load is connected to the terminals.

(f) For what value of load resistance is the power maximum?

(g) Find the maximum power that can be delivered to a load.