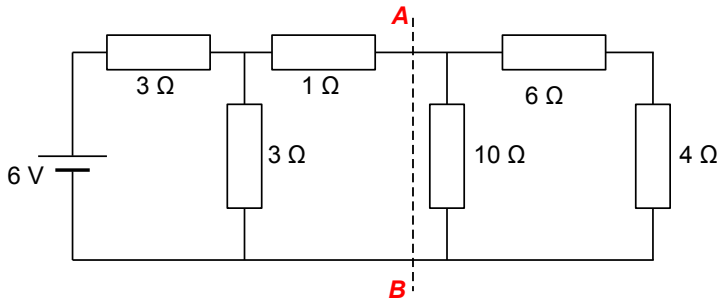
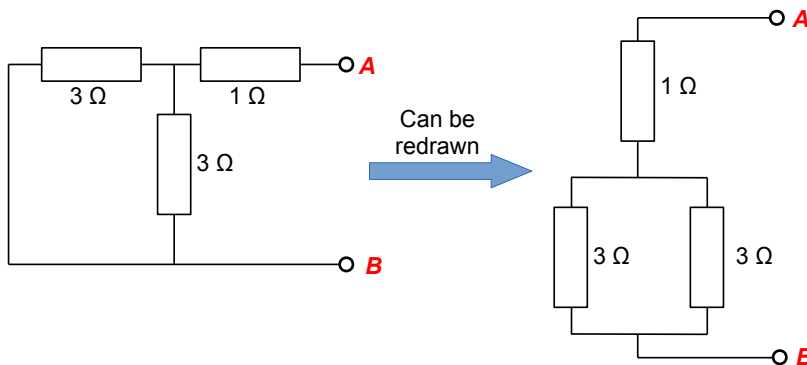


Thévenin

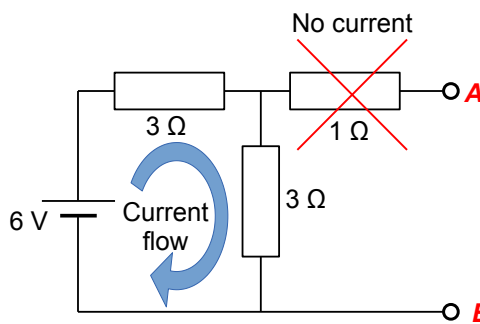
To find the Thévenin resistance for the circuit to the **left** of the line **AB**. Short circuit the voltage source.



This is shown below. The combination of resistors is $1 + \frac{9}{6} = 1 + \frac{3}{2} = 2.5 \Omega$.



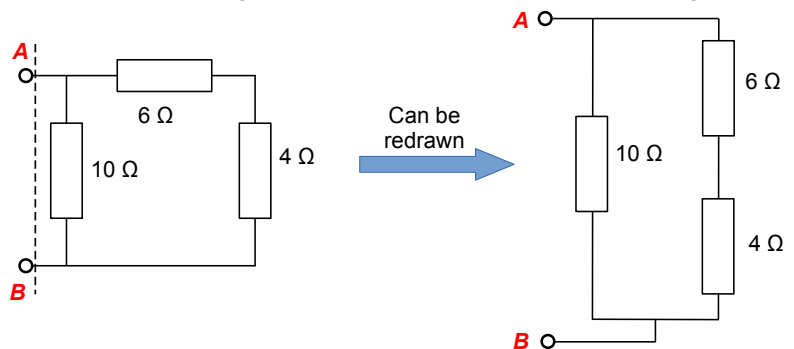
The Thévenin voltage is V_{AB} . This can be calculated as shown in the circuit below,



$$V_{AB} = \frac{6V}{2} = 3V$$

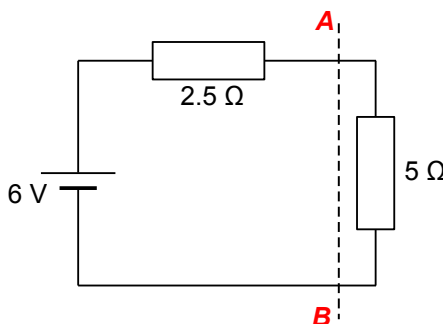
The load resistances to the right of the original **AB** line can be sketched as shown below.

This combination gives two branches of 10Ω , yielding 5Ω .



The current through the combined load resistor is

$$I = \frac{V}{R} = \frac{3}{7.5} = 0.4A$$



The 5Ω resistor is actually two branches of 10Ω , so the current through each branch is half the total, i.e. $0.2A$.