

Homework for Analogue Electronics

Xiping Hu

<http://thehxp.tech/>

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电路如图 7 所示，S 断开时电压表读数为 18V；S 闭合时电流表读数为 1.8A。求网络的戴维宁等效电路；S 闭合时电压表读数是多少？

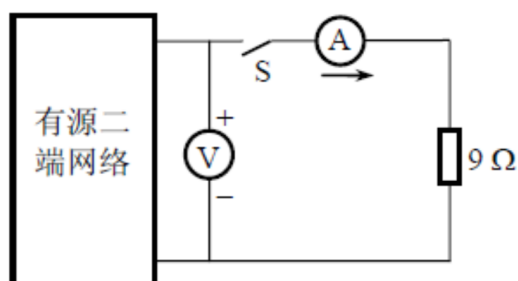
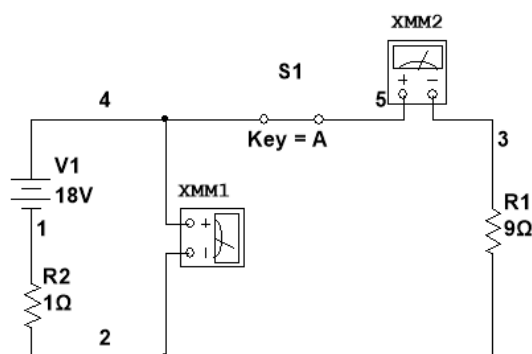


图 7

Solution When S is closed, we can calculate the inner resistance of the network to the left.

$$R = \frac{18 \text{ V}}{1.8 \text{ A}} - 9 \Omega = 1 \Omega$$

So that the whole circuit is equivalent to this circuit below



$$U = \frac{18 \text{ V}}{10 \Omega} \times 9 \Omega = 16.2 \text{ V}$$