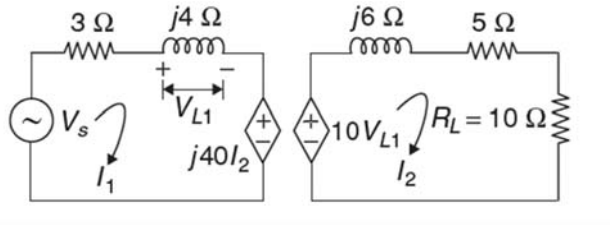
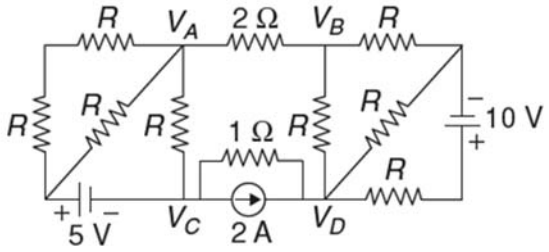
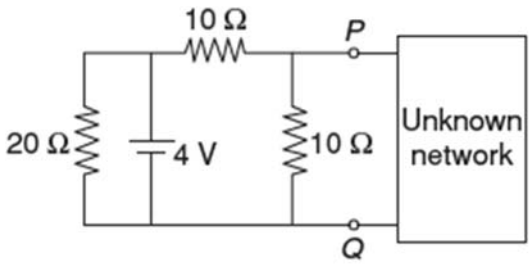
1. In the circuit shown below, if the source voltage $V_S = 100\angle 53.12°$ V. What is the value of the Thevenin's equivalent voltage in Volts as seen by the load resistance R_L.



2. If $V_A - V_B = 6$ V, then $V_C - V_D$ is

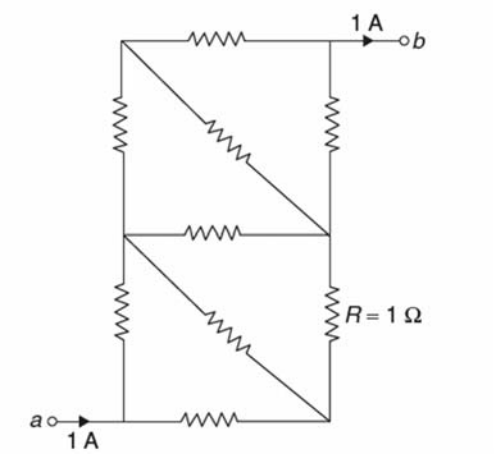


3. In the given figure, the Thevenin's equivalent pair (voltage, impedence), as seen at the terminals *P* - *Q*, is given by

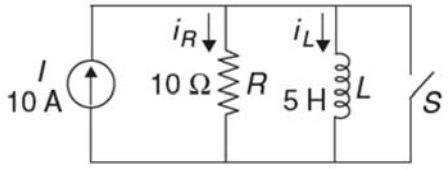


4. A 10 V battery with an internal resistance of 1 Ω is connected across a non-linear load whose $V - I$ characteristic is given by
$7I = V^2 + 2V$. The current delivered by the battery is …….A.

5. In the resistor network shown in figure, all resistor values are 1 Ω. A current of 1 A passes from terminal *a* to terminal *b*, as shown in the figure. Calculate the voltage between terminals *a* and *b*.



6. A constant current source is supplying 10 A to a circuit shown in the figure. The switch *S*, which is initially closed for a sufficiently long time, is suddenly opened. Obtain the differential equation governing the behaviour of the inductor current and hence obtain the complete time response of the inductor current. What is the energy stored in *L*, along time after the switch is opened?



7. In the circuit shown in the figure, $e_g(t) = 2.5t$ V. What are the values of $i(t)$ and $v_L(t)$ at $t =$ 4 seconds?