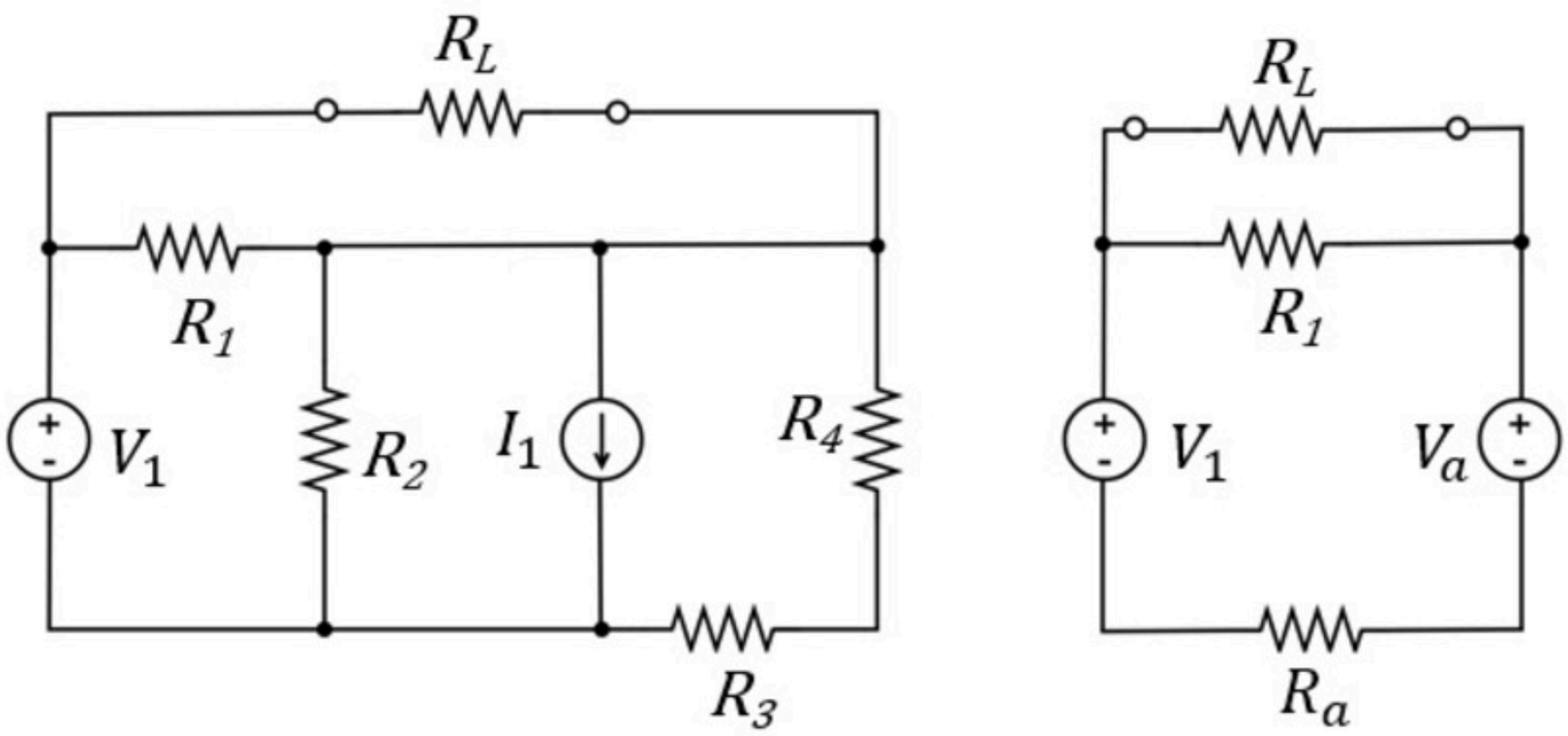
Circuit theorems 011

Unlimited Attempts.

The circuit on the right was created by applying source transformations to the circuit on the left.

Find the values of V_a and R_a .



Given Variables:

V1 : 20 V

I1 : 2 A

R1 : 14 ohm

R2 : 6 ohm

R3 : 1 ohm

R4 : 11 ohm

Calculate the following:

Ra (ohm) :

Va (V) :

> Hint: Make sure you use the correct transformations.

The circuit on the right was created by applying source transformations on the left circuit.

Find the values of V_a and R_a.

V1 = 17 V

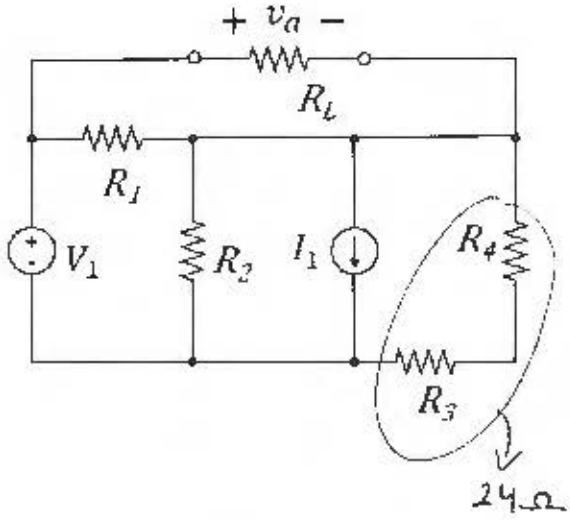
I1 = 2 A

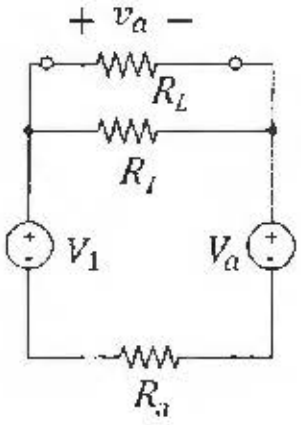
R1 = 22 ohm

R2 = 8 ohm

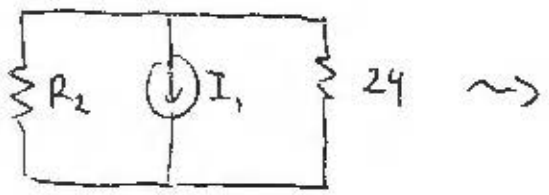
R3 = 12 ohm

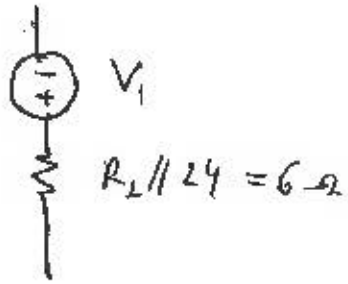
R4 = 12 ohm





$$R_2 /\!/ 24 = \left(\frac{1}{8} + \frac{1}{24}\right)^{-1} = \left(\frac{3}{24} + \frac{1}{24}\right)^{-1} = 6\,\Omega$$





$$V_1 = I_1 \cdot (R_2 /\!/ 24) = 2 \cdot 6 = 12\,V$$

$V_a = 12\,V$

$R_a = 6\,\Omega$