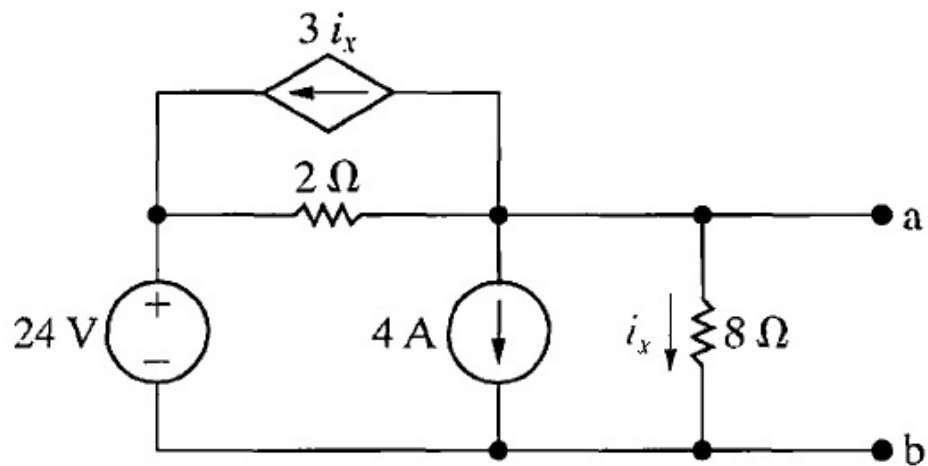|	
Started on	Monday, 24 October 2016, 12:13 PM
State	Finished
Completed on	Monday, 24 October 2016, 12:14 PM
Time taken	1 min 15 secs
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 10.00 out of 10.00

AP4.19_9ed

Find the Thévenin equivalent circuit with respect to the terminals a,b for the circuit shown
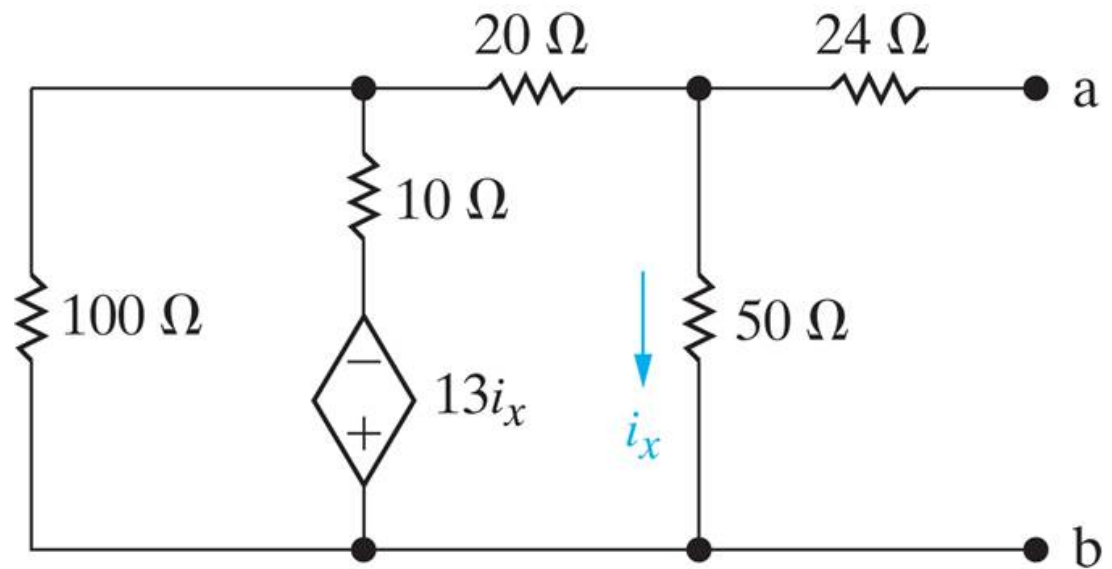
V_{Th} = [8] ✔ V

R_{Th} = [1] ✔ Ω (Ohm)

Correct

Marks for this submission: 10.00/10.00.

Question 2

Correct

Mark 10.00 out of 10.00

P4.80_10ed

Find the Thévenin equivalent circuit with respect to the terminals a,b for the circuit shown.

Hint: Note that there are no independent sources in this circuit! You will have to provide an excitation to get a response.
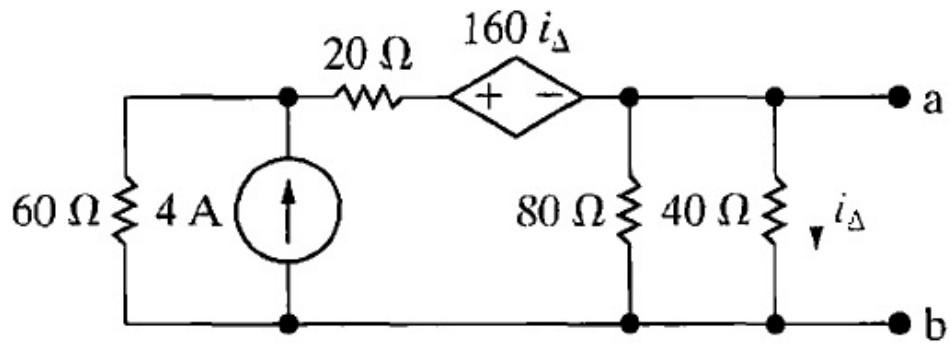
V_{Th} = [0] ✓ V

R_{Th} = [40] ✓ Ω (Ohm)

Correct

Marks for this submission: 10.00/10.00.

AP4.20_9ed

Find the Thévenin equivalent circuit with respect to the terminals a,b for the circuit shown.

Hint: Define the voltage at the left-most node as v, and write two nodal equations with V_{Th} as the right node voltage.

V_{Th} = [30] ✓ V

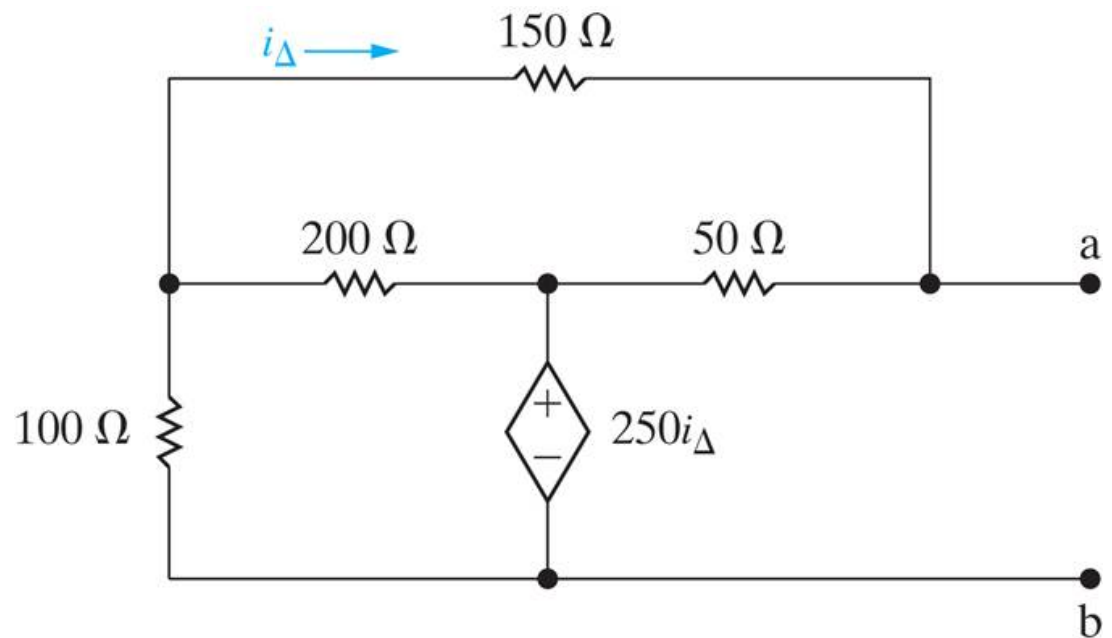R_{Th} = [10] ✓ Ω (Ohm)

Correct

Marks for this submission: 10.00/10.00.

Question 4

Correct

Mark 10.00 out of 10.00

P4.79_10ed

Find the Thévenin equivalent circuit with respect to the terminals a,b for the circuit shown.

Hint: Note that there are no independent sources in this circuit! You will have to provide an excitation to get a response.

V_{Th} = [0] ✓ V

R_{Th} = [15.38] ✓ Ω (Ohm)

Correct

Marks for this submission: 10.00/10.00.
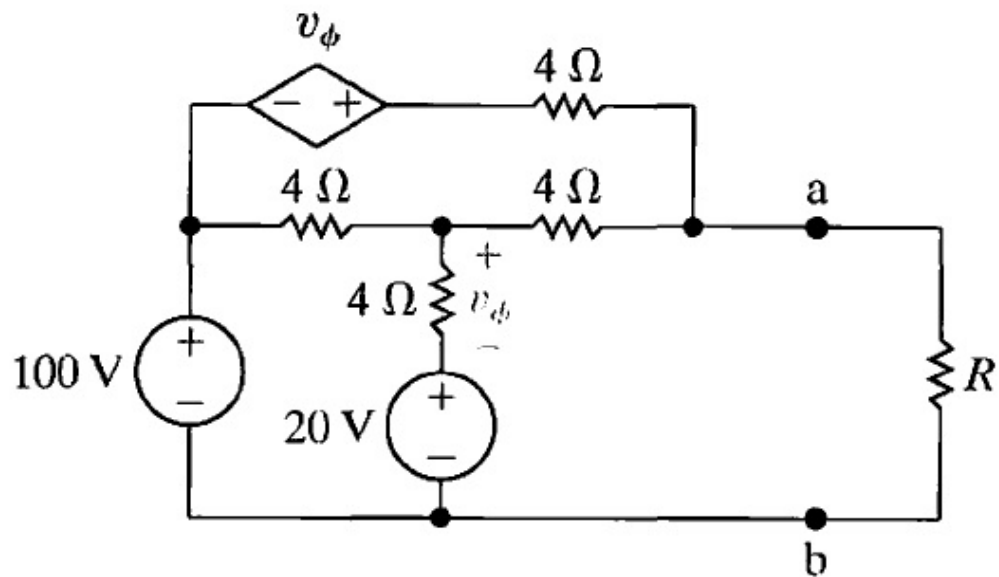
AP4.21_9ed

a) Find the value of R that enable the circuit to deliver maximum power to the terminals a,b

R = | 3 | ✓ Ω (Ohm)

b) Find the maximum power delivered to R

P_R = | 1200 | ✓ W

Correct

Marks for this submission: 10.00/10.00.

R_o

30 V $\quad$ 6 Ω

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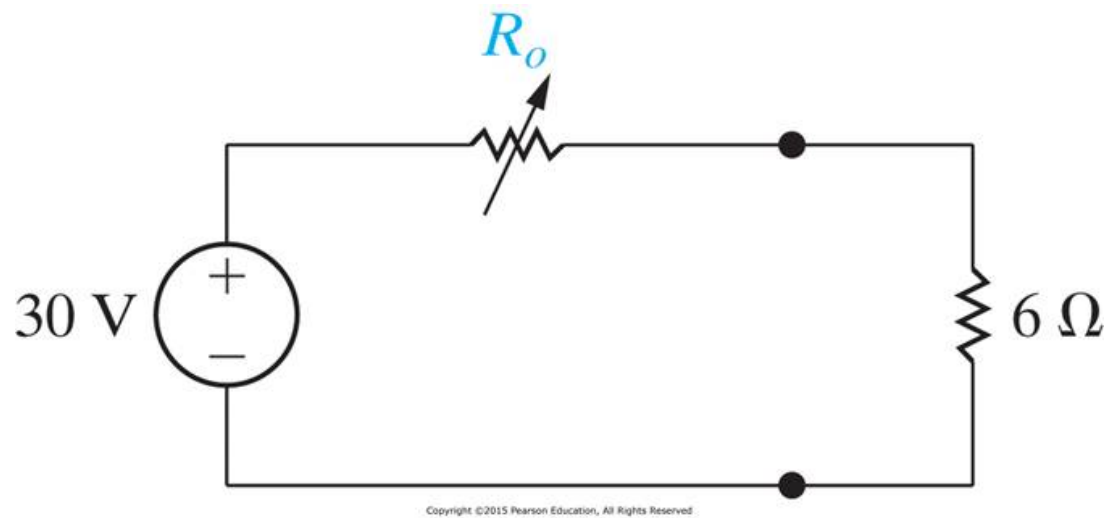
P4.85_10ed

a) Find the value of the variable resistor R_0 in the circuit that will result in maximum power dissipation in the 6 Ω (Ohm) resistor. $0 \le R_0 \le \infty$

$R_0 =$ [0] ✓ Ω (Ohm)

b) Find the maximum power that can be delivered to the 6 Ω (Ohm) resistor.

$P_{max} =$ [150] ✓ W

Correct

Marks for this submission: 10.00/10.00.

$10 \text{ k}\Omega$

6 V

i_o

0.5 mA

-6 V

$2.5 \text{ k}\Omega$ $5 \text{ k}\Omega$

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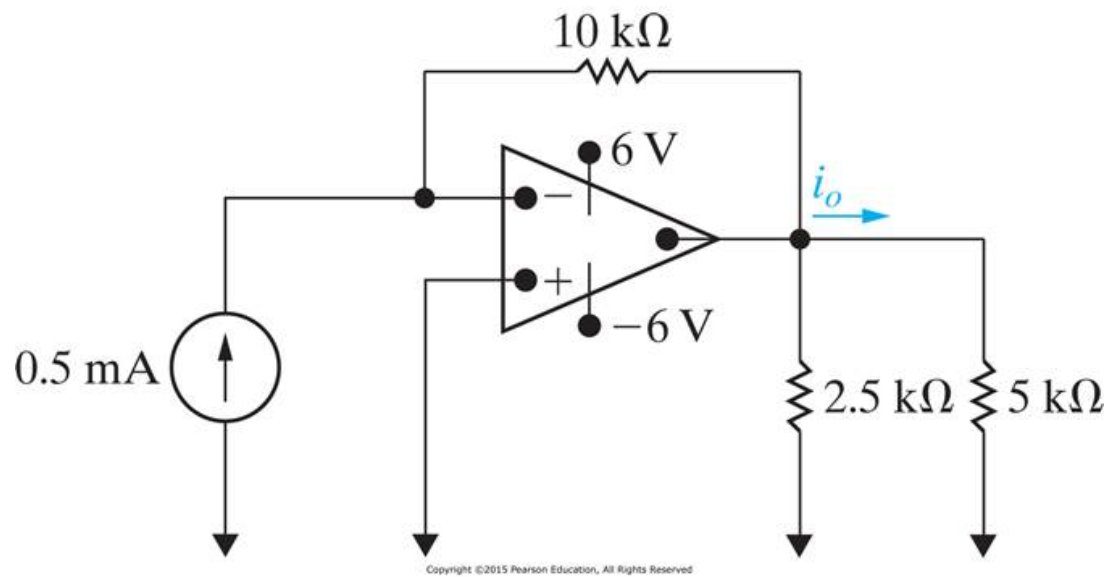
P5.05_10ed

Assume the op amp is ideal.

Find current i_0 which flows through the 5k W (Ohm) resistor.

$i_0 =$ [-1] ✓ mA (milli Amp)

Correct

Marks for this submission: 10.00/10.00.
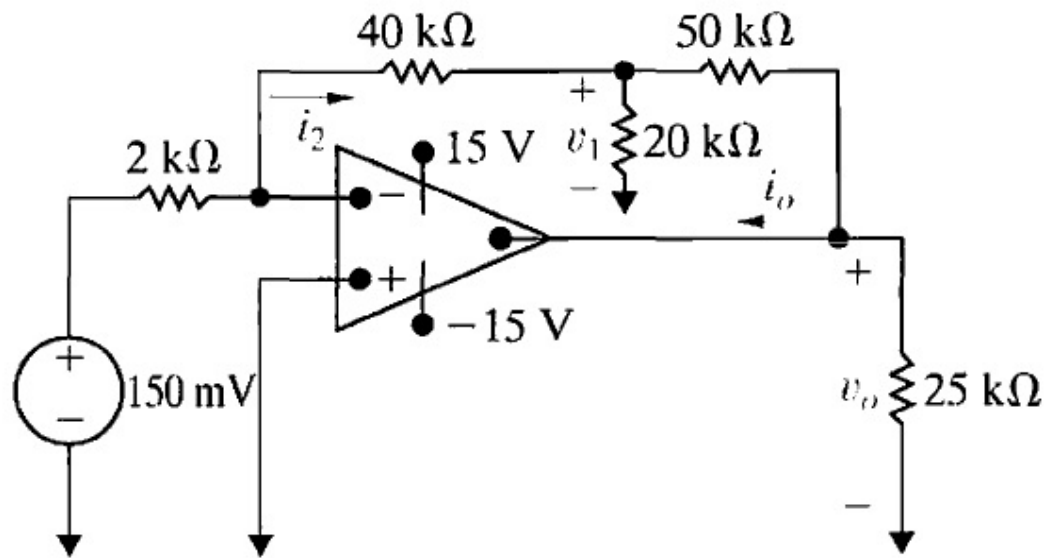
P5.06_9ed
Assume the op amp is ideal.
Calculate v_1, v_0, i_2, and i_0.

$v_1 = $ | -3 | ✓ V

$v_O = $ | -14.25 | ✓ V

$i_2 = $ | 75 | ✓ µA (micro Amp)

$i_O = $ | 795 | ✓ µA (micro Amp)

Correct

Marks for this submission: 10.00/10.00.

2.2 MΩ

10 V

−10 V

3.5 µA

v_o

v_m
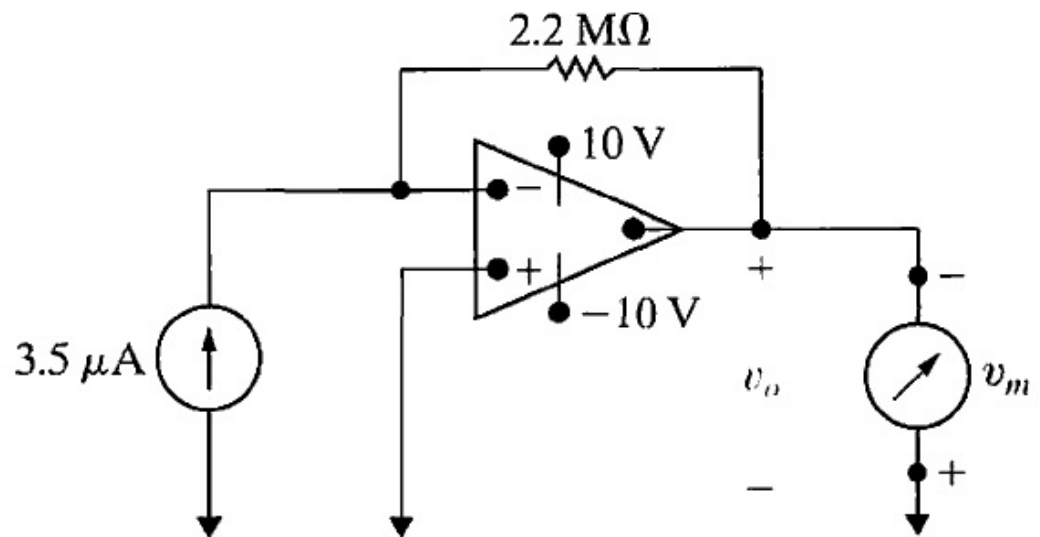
P5.07_10ed

Assume the op amp is ideal.

A voltmeter capable of a full-scale reading of 10 V is used to measure the output in the circuit in the figure below. What is the reading of the voltmeter?
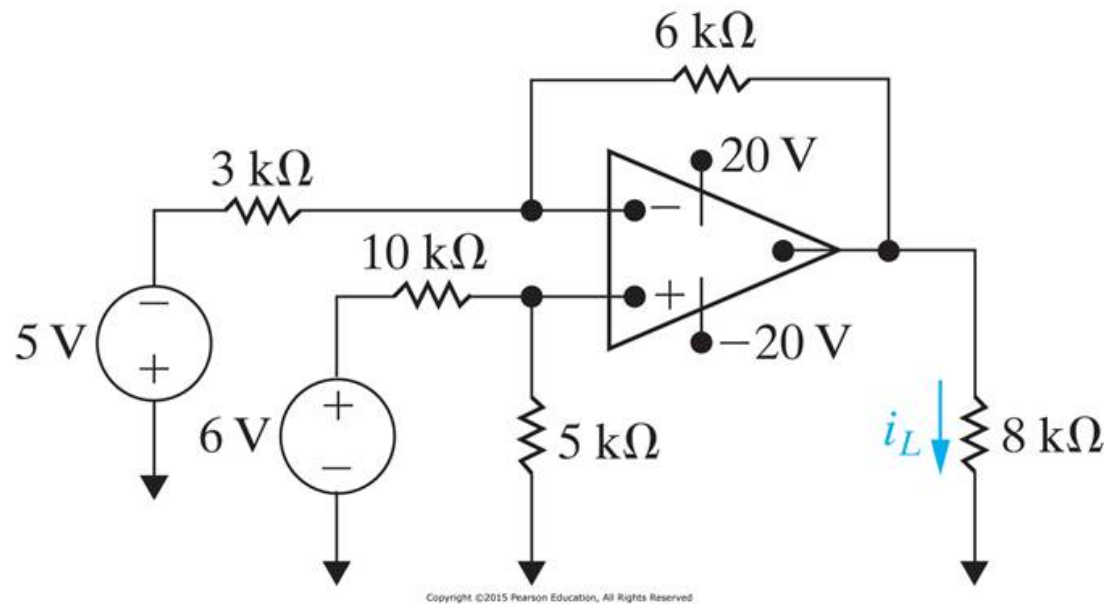
v_m = [7.7] ✓ V

Correct

Marks for this submission: 10.00/10.00.

Question 10

Correct

Mark 10.00 out of 10.00

$6 \text{ k}\Omega$

$3 \text{ k}\Omega$

20 V

$10 \text{ k}\Omega$

5 V

6 V

-20 V

$5 \text{ k}\Omega$

i_L $8 \text{ k}\Omega$

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P5.03_10ed

Assume the op amp is ideal.

Find i_L in this circuit. i_L = 2   ✓ mA (milli Amps)

Correct

Marks for this submission: 10.00/10.00.