

These are from the 8th edition and are the questions that go with the sample homework answer key on the website.

- 1.12) a) $I = 5 \text{ A}$ $v = 120 \text{ v}$
 b) $I = -8 \text{ A}$ $v = 250 \text{ v}$
 c) $I = 16 \text{ A}$ $v = -150 \text{ v}$
 d) $I = -10 \text{ A}$ $v = -480 \text{ v}$ Find the power and say which way it is flowing.

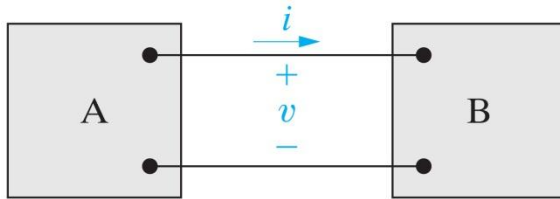


Figure: 01-06-02UNP1.12

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1.20) $v = 75 - 75\exp(-1000t) \text{ v}$, $I = 50\exp(-1000t) \text{ mA}$ Find max power and total energy delivered to the circuit.

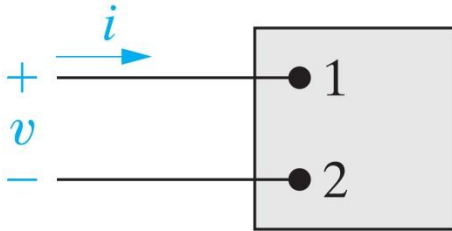


Figure: 01-05

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1.26) Do power check.

element	Voltage mV	Current A
a	150	0.6
b	150	-1.4
c	100	-0.8
d	250	-0.8
e	300	-2.0
f	-300	1.2

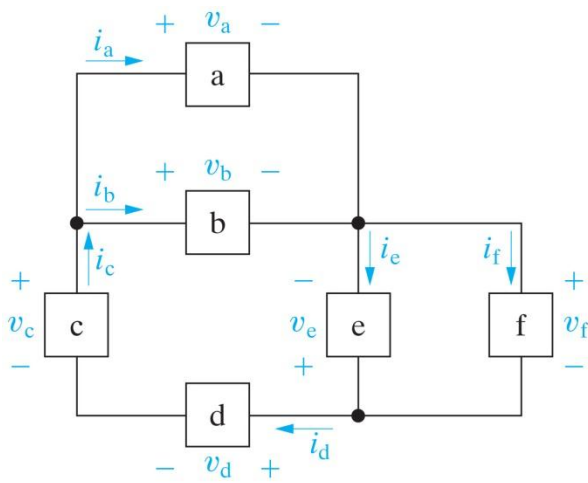


Figure: 01-06-06UNP1.26

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2.8) Find if valid interconnection and if so, do power check.

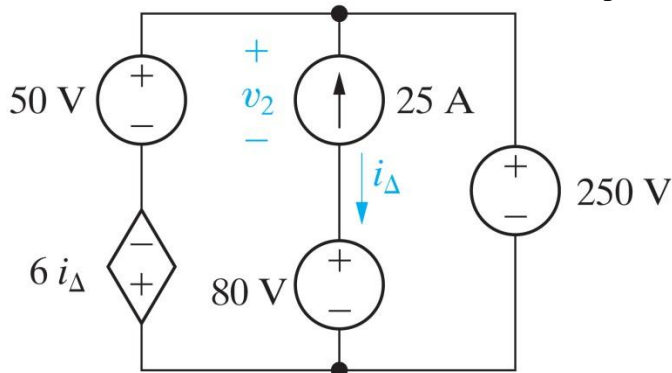
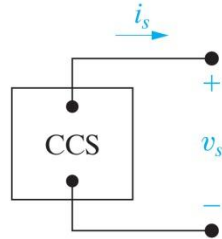


Figure: 02-25-08UNP2.08

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2.16) plot i_s vs v_s ; make a circuit model for this current source that is valid for up to 30 v; predict the current in a 3 kΩ resistor.

i_s (mA)	v_s (V)
40	0
35	10
30	20
25	30
18	40
8	50
0	55



(a)

(b)

Figure: 02-25-16UNP2.16

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2.22) Find R and the power supplied by the source.

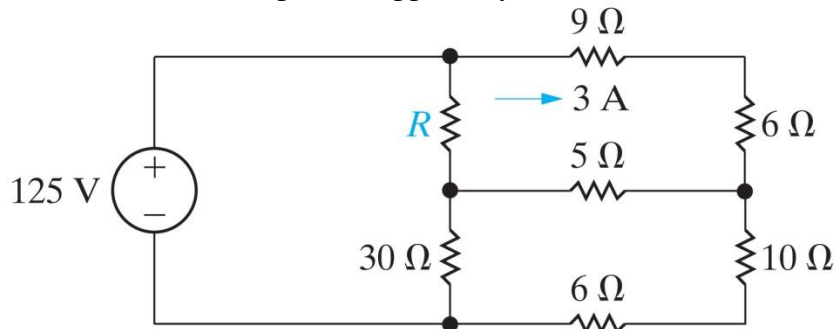


Figure: 02-25-22UNP2.22

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2.29) Find i_o , i_1 , i_2 .

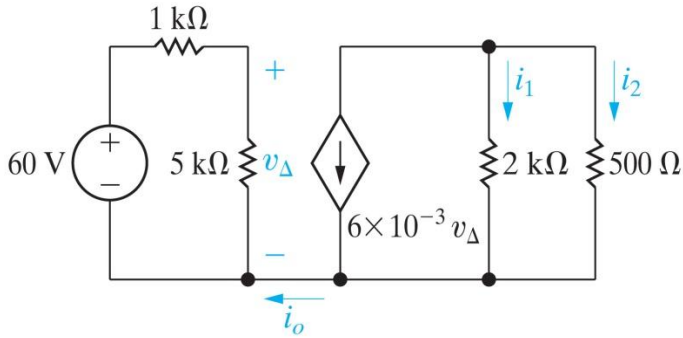


Figure: 02-25-28UNP2.29

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2.37) This is 2.37 in the ninth edition as well.

3.7) Find the equivalent resistance for each circuit.

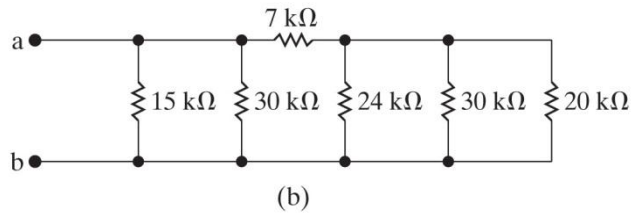
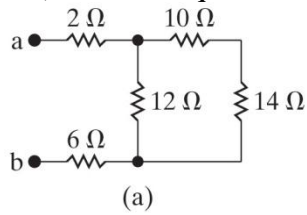


Figure: 03-37-05un a,bP3.07

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3.11) Find v_o , i_o , the power in the 12Ω resistor, the power of the current source.

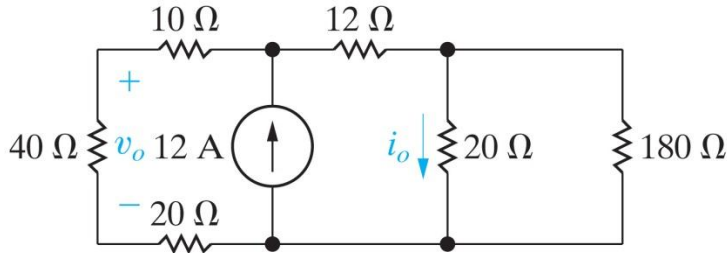


Figure: 03-37-09unP3.11

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3.17) When voltage divider a is connected to circuit b, what is v_o ? Find v_o in circuit c. What effect does the dependent source have on the circuit a?

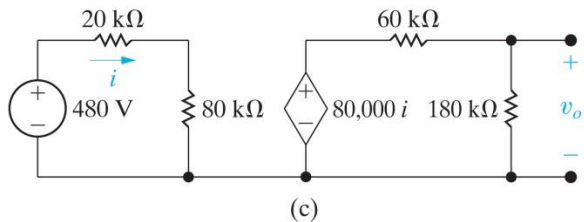
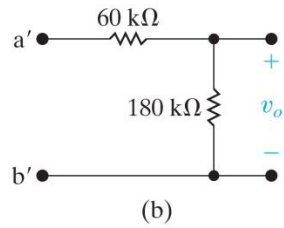
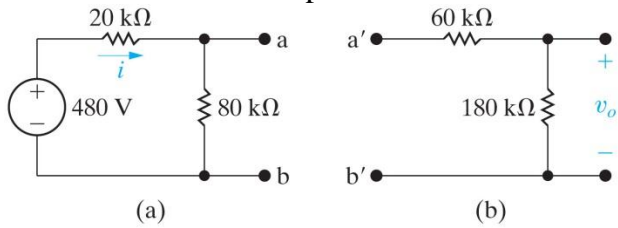


Figure: 03-37-13un a-cP3.17

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3.28) Find i_o and power in the 15Ω resistor.

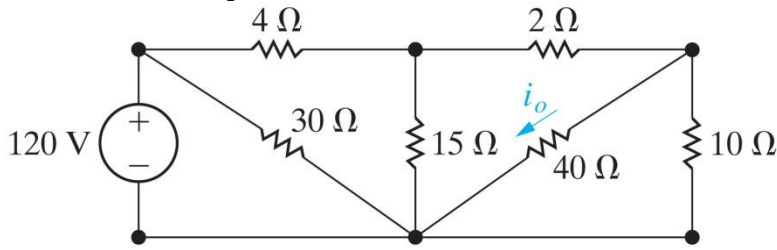


Figure: 03-37-21UNP3.28

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3.32) What is the % error in the measurement of i_o ? You measure the current with an ammeter with a resistance of 0.5Ω .

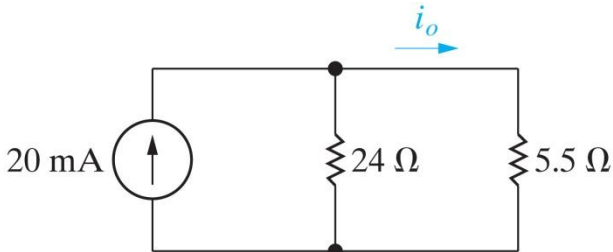


Figure: 03-37-26unP3.32

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3.44) Say you ignore the resistance of the meter movement in the multirange voltmeter shown. Find R_1 , R_2 , R_3 . For each of these ranges, find the % error this strategy produces.

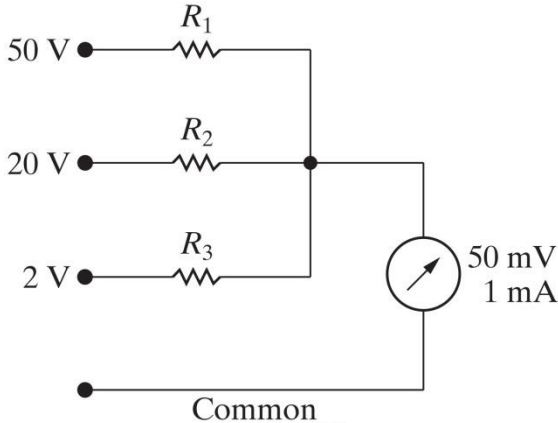


Figure: 03-37-32un P3.44

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3.49) Find i_d if the voltage drop across the detector is negligible.

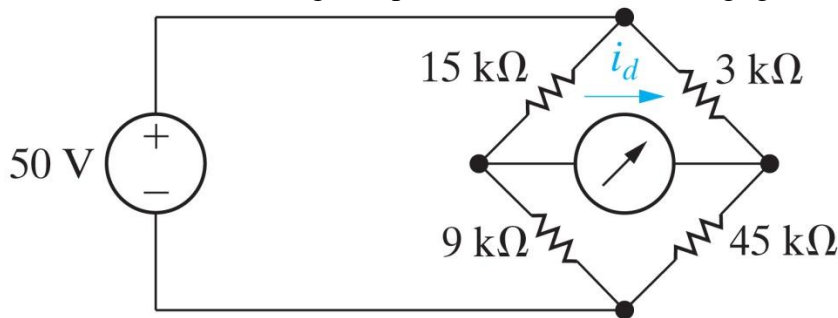


Figure: 03-37-35unP3.49

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3.55) In circuit a, D is a device that has the equivalent circuit shown in figure b. Find v_x and the power absorbed by the device.

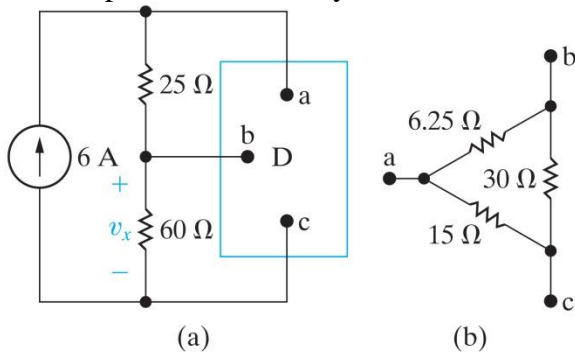


Figure: 03-37-40unP3.55
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