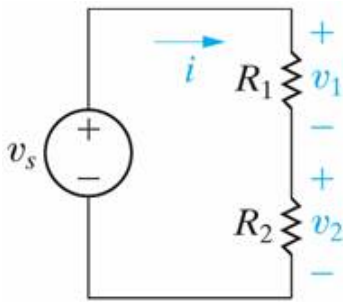
Started on	Monday, 19 September 2016, 11:59 AM
State	Finished
Completed on	Wednesday, 21 September 2016, 12:19 PM
Time taken	2 days
Grade	**100.00** out of 100.00

Question 1

Correct

Mark 10.00 out of 10.00



CQ3.05b

Given:

vs = 96 Volts R1 = 715 Ω (Ohms) R2 = 130 Ω (Ohms)

Find the voltage v_2.

Answer: 14.76

Calculated question

The correct answer is: 14.77

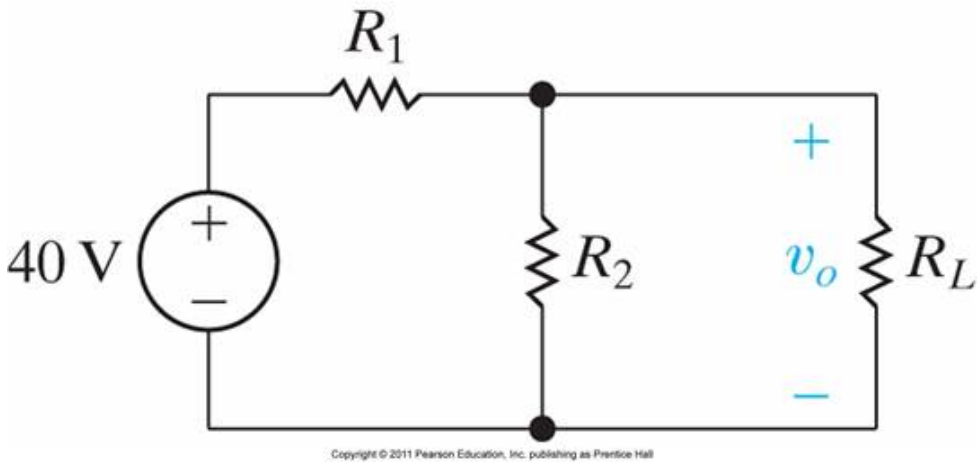
Correct

Marks for this submission: 10.00/10.00.

Question 2

Correct

Mark 10.00 out of 10.00



P3.16_9ed

The no-load voltage across R_2 in the voltage-divider circuit shown is 8 V. The smallest load resistor that is ever connected to the divider is 3.6 k Ω (kilo Ohm). When the divider is loaded, v_O is not to drop below 7.5V.

a) Design the divider circuit to meet the specifications just mentioned. Specify the numerical values of R_1 and R_2 when you use a single standard value for each resistor from the textbook's Appendix H. You may use up to two resistors in combination for R_1 and up to another two resistors in combination for R_2.

R_1 = 1200 ✓ Ω (Ohms) R_2 = 300 ✓ Ω (Ohms)

b) Assume the power ratings of commercially available resistors are 1/16, 1/8, 1/4, 1, and 2 W. What power rating would you specify?

$P_{R1,rating}$ = 1 ✓ Watt $P_{R2,rating}$ = .25 ✓ Watt

Numeric Answer
(a) R_1 = 1,200 Ω R_2 = 303 Ω
(b) $P_{R1,rating}$ = 1 Watt $P_{R2,rating}$ = 0.25W = ¼ Watt

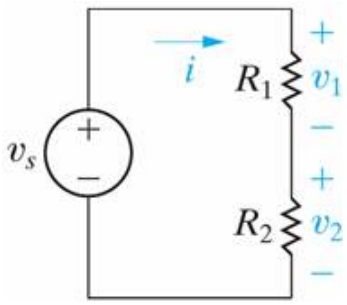
Correct

Marks for this submission: 10.00/10.00.

Question 3

Correct

Mark 10.00 out of 10.00



CQ3.05c

Given:

vs = 88 Volts R1 = 651 Ω (Ohms) R2 = 200 Ω (Ohms)

Find the current *i*. *i* = ?? mA (milli A)

Answer: 103.41

Calculated question

The correct answer is: 103.41

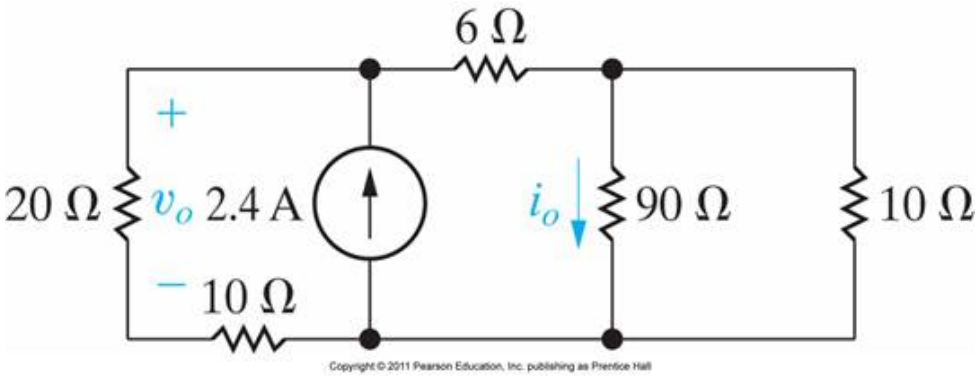
Correct

Marks for this submission: 10.00/10.00.

Question 4

Correct

Mark 10.00 out of 10.00



P3.11_9ed

a) Find v_0 and i_0.

v_0 = 16 ✓ Volts i_0 = 160 ✓ mA (milli A)

b) Find the power dissipated in the 6 Ω (Ohm) resistor.

$P_{6\Omega}$ = 15.36 ✓ Watts

c) Find the power absorbed/delivered by the current source.

$P_{2.4A}$ = 57.6 ✗ Watts

"-" = "delivering" and "+" = "absorbing"

Numeric Answer

a) v_0 =16 V i_0 = 0.16 A
b) $P_{6\Omega}$ = 15.36 W
c) $P_{2.4A}$ = -57.6 W

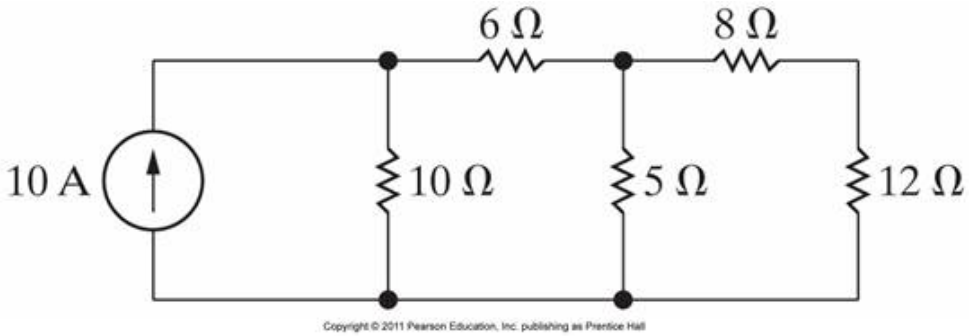
Correct

Marks for this submission: 10.00/10.00.

Question 5

Correct

Mark 10.00 out of 10.00



P3.10_9ed

a) Find the power dissipated in the 5 Ω (Ohm) resistor.

P5Ω = 80 ✓ Watts

b) Find the power dissipated in the 6 Ω (Ohm) resistor.

P6Ω = 150 ✓ Watts

"-" = "delivering" and "+" = "absorbing"

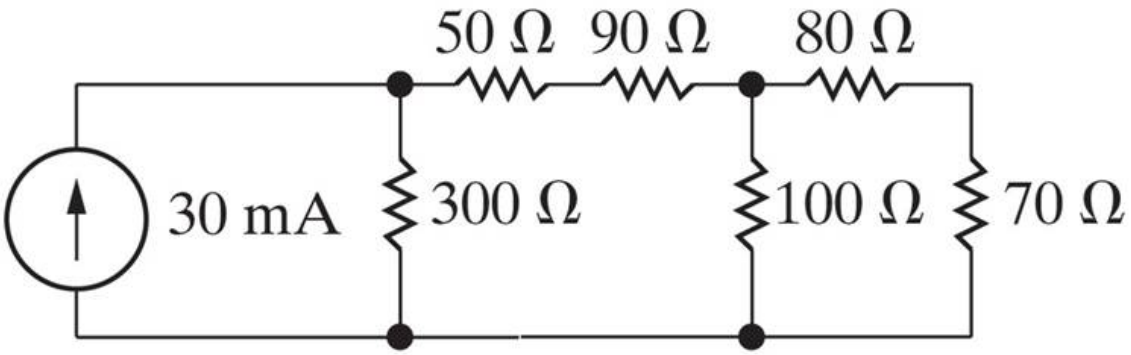
Numeric Answer
a) $P_{5\Omega}$ = 80 W
b) $P_{6\Omega}$ = 150 W

Correct
Marks for this submission: 10.00/10.00.

Question 6

Correct

Mark 10.00 out of 10.00



P3.24_10ed

a) Use current division to find the current in the 50 Ω (Ohm) resistor..

$I_{50\Omega}$ = 18 ✓ mA

b) Use $I_{50\Omega}$ result from part (a) and current division to find the current in 70 Ω (Ohm) resistor.

$I_{70\Omega}$ = 7.2 ✓ mA

Numeric Answer

a) I_{50W} = 18 mA

b) $I_{70\Omega}$ = 7.2 mA

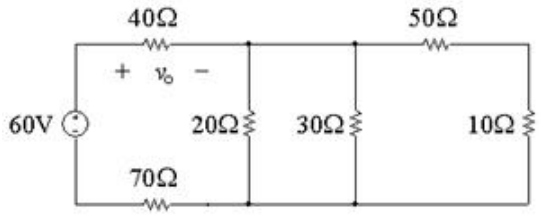
Correct

Marks for this submission: 10.00/10.00.

Question 7

Correct

Mark 10.00 out of 10.00



AP3.04_9ed

a) Use voltage division to determine the voltage v_O across the 40 Ω (Ohm) resistor.

v_0 = 20 ✓ Volts

b) Use v_O from part a) to determine the current through the 40 Ω (Ohm) resistor, and use this current and current division to calculate the current in the 30 Ω (Ohm) resistor.

$I_{30\Omega}$ = 166.67 ✓ mA (milli A)

c) How much power is absorbed by the 50 Ω (Ohm) resistor?

$P_{50\Omega}$ = 347.22 ✓ mW (milli W)

"-" = delivering and "+" = absorbing power

Numeric Answer

a) v_0 = 20 V

b) $I_{30\Omega}$ = 166.67 mA

c) $P_{50\Omega}$ = 347.22 mW

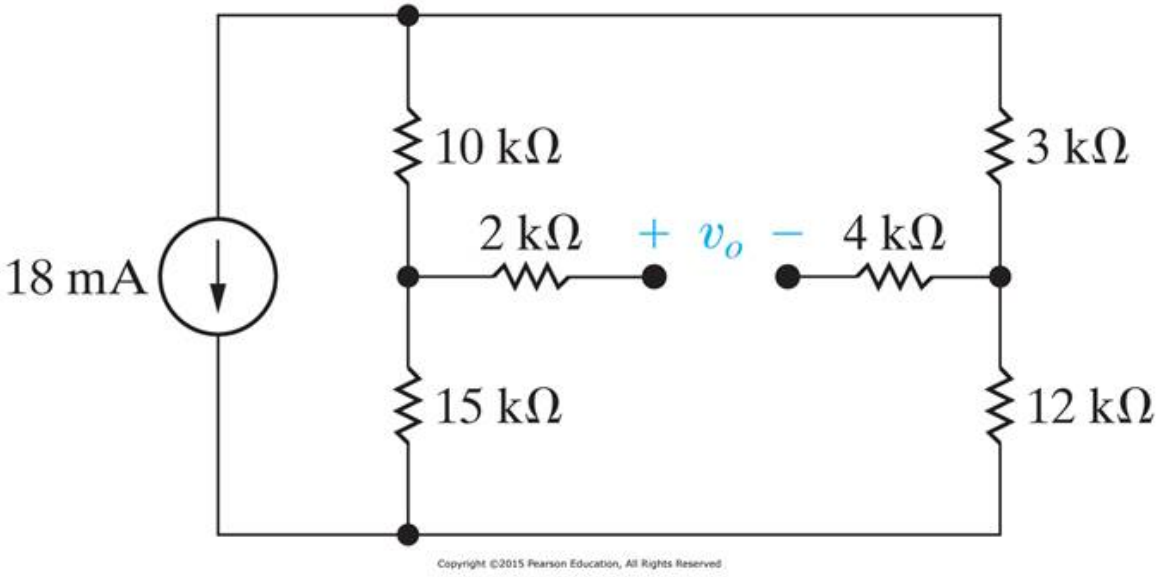
Correct

Marks for this submission: 10.00/10.00.

Question 8

Correct

Mark 10.00 out of 10.00



P3.29_10ed

Find the voltage v_0 using voltage and/or current division.

Answer: 33.75

Numeric Answer

$v_0 = 33.75$ V

The correct answer is: 33.75

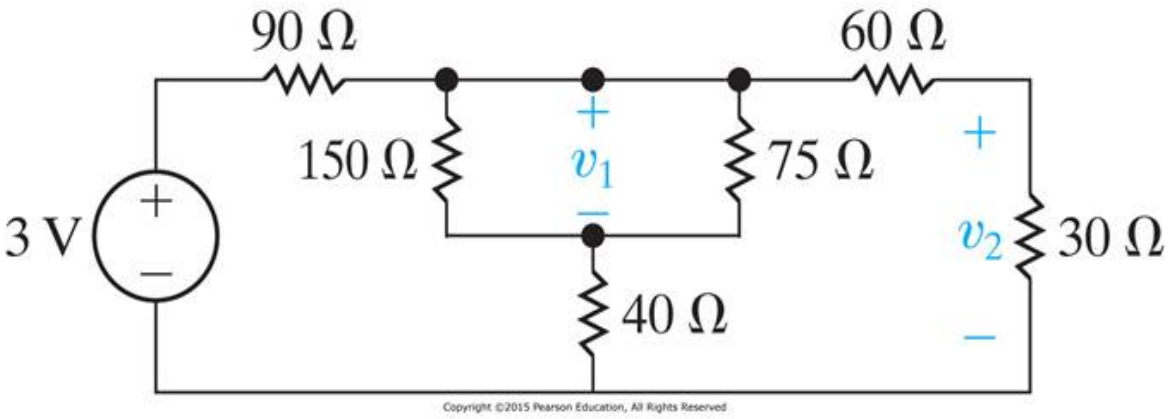
Correct

Marks for this submission: 10.00/10.00.

Question 9

Correct

Mark 10.00 out of 10.00



P3.30_10ed

Find the voltage v_1 and v_2 using voltage and/or current division.

v_1 = 0.56 ✓ Volts

v_2 = 0.33 ✓ Volts

Numeric Answer

v_1 = 5/9 V = 0.556 Volts

v_2 = 3/9 V = 0.333 Volts

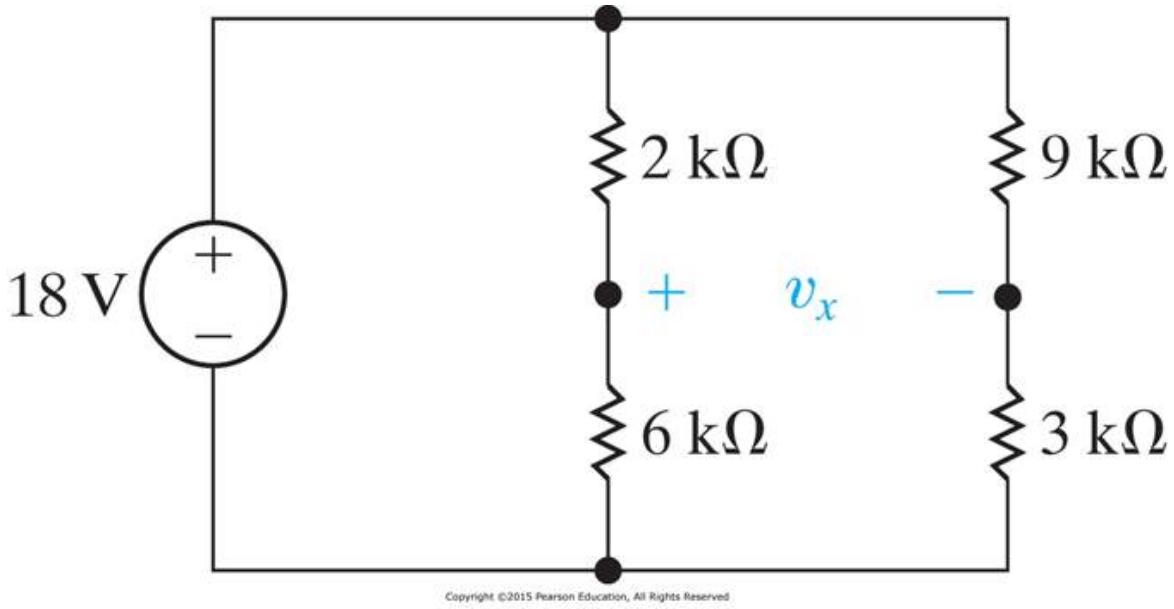
Correct

Marks for this submission: 10.00/10.00.

Question 10

Correct

Mark 10.00 out of 10.00



P3.28_10ed

Find the voltage v_x using voltage and/or current division.

Answer: 9

Numeric Answer

$v_x = 9$ V

The correct answer is: 9

Correct

Marks for this submission: 10.00/10.00.