

Question 1 of 10

10.0/ 10.0 Points

A 9V battery supplies 57 mA to a portable music system.

How much energy does the battery deliver in 23 minutes?

Energy $w = \checkmark -707.94$ Joules

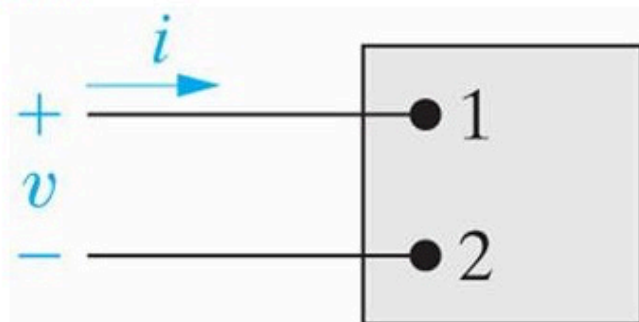
"+" = absorbed "-" = delivered

Answer Key: -707.94

Feedback: Calculated Question

Question 2 of 10

10.0/ 10.0 Points



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The voltage and current at the terminals of this circuit are zero for $t < 0$.

For $t \geq 0$ $v = 50 e^{-1660t}$ Volts $i = 5.5 e^{-1660t}$ Amps

a) Find the power at $t = 500 \mu\text{s}$ (micro seconds).

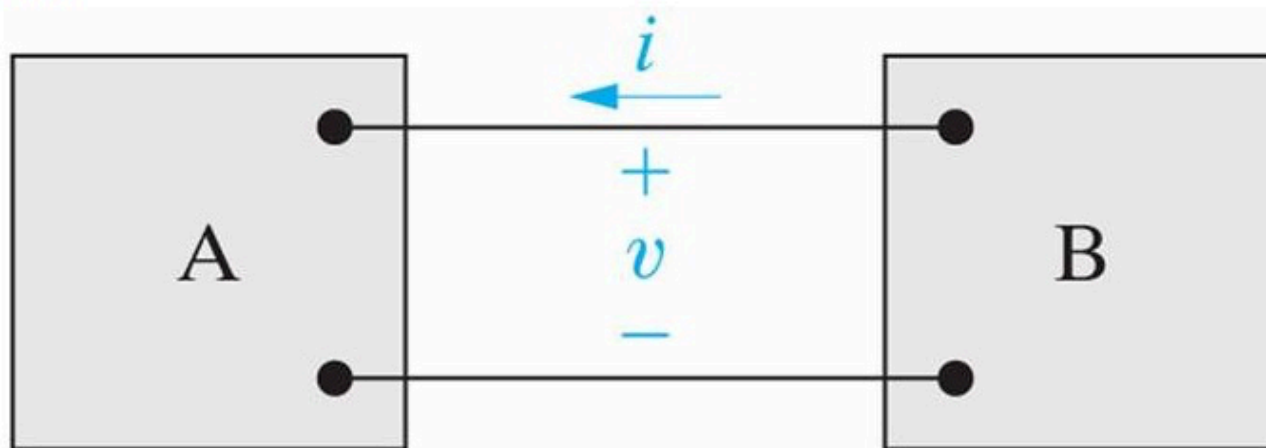
$P_{500\mu\text{s}} = \checkmark 52.28$ Watts

b) How much energy is delivered to the circuit element between zero and $500 \mu\text{s}$ (micro seconds)?

$w = \checkmark 67.08$ mJ (milli Joule)

Answer Key: 52.288,67.082

Feedback: Calculated Question



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Given: $v = 57.1$ Volts $i = -15.6$ Amps

Find the power absorbed/delivered by element B.

$P_B = \checkmark 890.76$ Watts

"+" = absorbed and "-" = delivered

Answer Key: 872.945|908.575

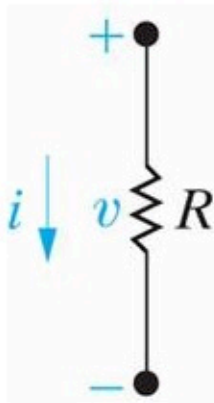
Feedback:

Numeric Answer

$P_B = -890.760$ Watts

Question 4 of 10

10.0/ 10.0 Points



Given:

A student has measured the following voltage and current for the resistor shown.

$$v = 14.8 \text{ Volts} \quad i = -5.5 \text{ Amps}$$

The instructor verified that the voltage was measured correctly.

a) Was the current measured correctly?

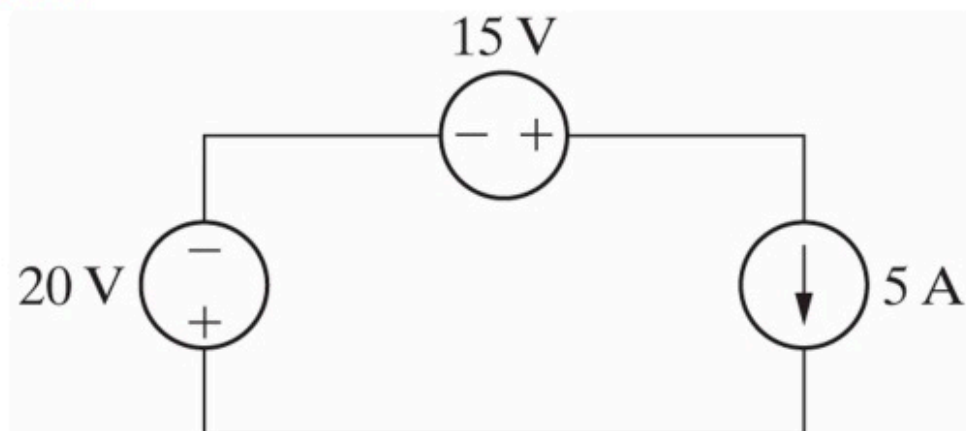
Correct? = ☒ No where No = 0 and Yes = 1

b) Find the power absorbed/delivered by the resistor.

$$P_R = \text{✓ } 81.4 \text{ Watts} \quad \text{"+" = absorbed and "-" = delivered}$$

Answer Key: 0,81.4

Feedback: Calculated Question



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Complex numbers should be in the form $(a + bi)$ where "a" and "b" need to have explicitly stated values.

For example: $\{1+1i\}$ is valid whereas $\{1+i\}$ is not. $\{0+9i\}$ is valid whereas $\{9i\}$ is not.

Calculate the power in each circuit element.

$$P_{20V} = \checkmark \underline{100} \text{ Watts}$$

$$P_{15V} = \checkmark \underline{-75} \text{ Watts}$$

$$P_{5A} = \checkmark \underline{-25} \text{ Watts}$$

"+" = absorbed and "-" = delivered

Answer Key: 98.0|102.0, -76.50|-73.50, -25.50|-24.50

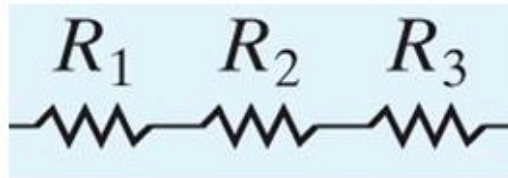
Feedback:

Numeric Answer

$$P_{20V} = +100W$$

$$P_{15V} = -75W$$

$$P_{5A} = -25W$$



Given:

$$R_1 = 188257 \, \Omega \text{ (Ohms)} \quad R_2 = 379456 \, \Omega \text{ (Ohms)}$$

$$R_3 = 30395 \, \Omega \text{ (Ohms)}$$

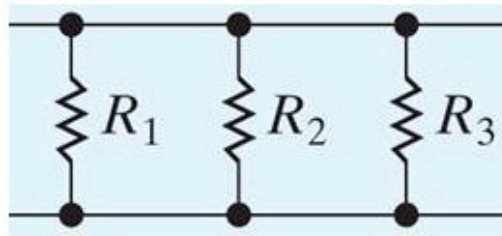
Find the equivalent resistance R_{Eq} .

$$R_{Eq} = \checkmark \underline{598108} \, \Omega \text{ (Ohms)}$$

Answer Key: 598108

Feedback:

Calculated Question



Given:

$$R_1 = 181202 \, \Omega \text{ (Ohms)} \quad R_2 = 154874 \, \Omega \text{ (Ohms)}$$

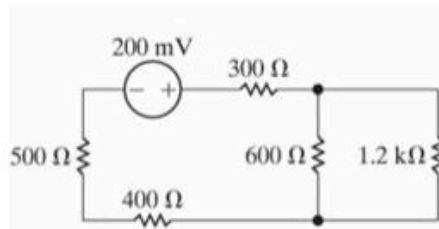
$$R_3 = 42911 \, \Omega \text{ (Ohms)}$$

Find the equivalent resistance R_{Eq} .

$$R_{Eq} = \checkmark \underline{28344.98} \, \Omega \text{ (Ohms)}$$

Answer Key: 28344.982

Feedback:



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Find the equivalent resistance of this circuit.

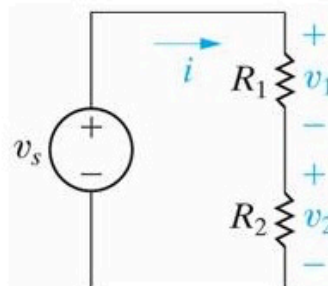
$R_{Eq} = \checkmark$ 1600 Ohms

Answer Key: 1568.0|1632.0

Feedback:

Numeric Answer:

$R_{Eq} = 1,600$ Ohms



Given:

$v_s = 257$ Volts

$R_1 = 947 \Omega$ (Ohms)

$R_2 = 520 \Omega$ (Ohms)

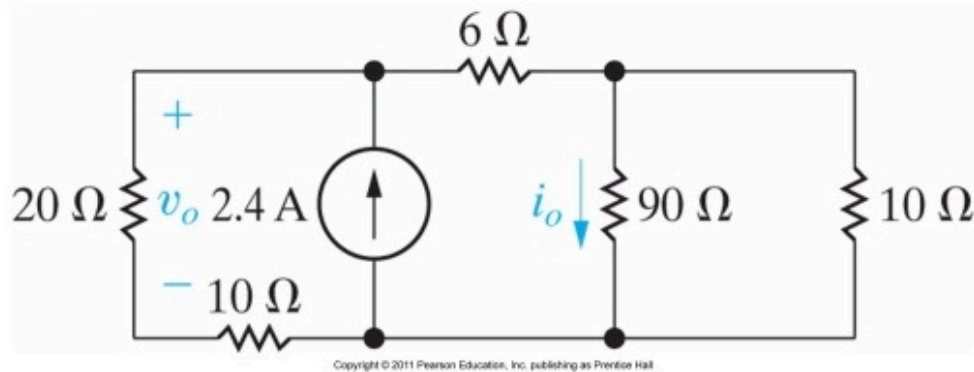
a) Find the voltage v_1 . $v_1 = \checkmark$ 165.90 Volts

b) Find the voltage v_2 . $v_2 = \checkmark$ 91.10 Volts

c) Find the current i . $i = \checkmark$ 0.175 Amps

Answer Key: 165.902,91.098,0.175

Feedback:



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Find the current through the 10 Ω resistor on the far right side of the circuit.

$i_{10\Omega} = \checkmark 1.44 \text{ A}$

Answer Key: 1.411|1.469

Feedback:

Numeric Answer:

$i_{10\Omega} = 1.440 \text{ A}$