Started on	Friday, 8 September 2017, 7:38 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:39 PM
Time taken	40 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If the Thevenin equivalent for a circuit is a 6.7V voltage source in series with a 2.1kΩ resistor, then what is the Norton equivalent resistance for this circuit in kilohms?

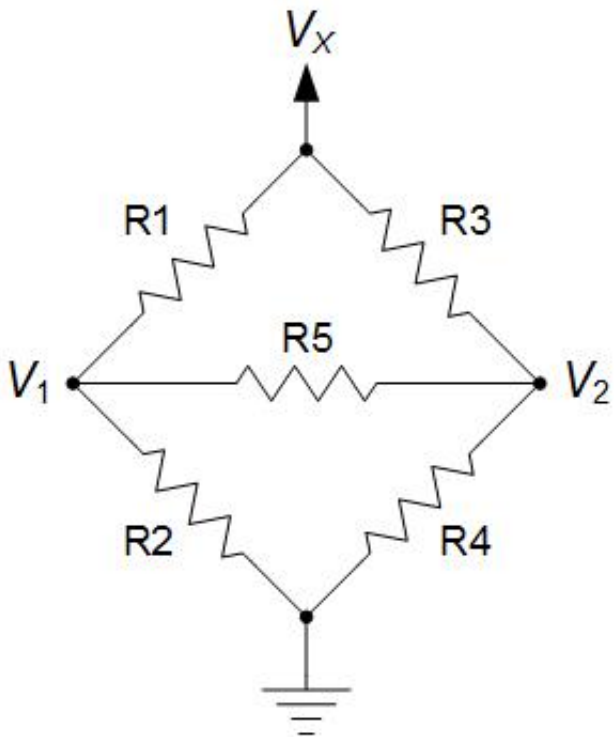
Answer:

The correct answer is: 2.10

Question 2

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the voltage V1 in volts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 3.6V, R1 = 3.4kΩ, R2 = 9.9kΩ, R3 = 2.8kΩ, R4 = 5.6kΩ and R5 = 3.3kΩ.

Answer:

The correct answer is: 2.59

Question 3

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and less current flows through R1 than through R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. None of these
- c. R1 has the same resistance as R2
- d. No way to determine
- e. R1 has a lower resistance than R2

The correct answer is: R1 has a higher resistance than R2

Question 4

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance stay the same as frequency increases?

Select one:

- a. Capacitors
- b. Resistors
- c. All of these
- d. Inductors
- e. None of these

The correct answer is: Resistors

Question 5

Not answered

Mark 0.0 out of 1.0

The energy stored by a capacitor is given by :

Select one:

- a. C*V/I
- b. C*V*I
- c. None of the these
- d. C*V*V/2
- e. C*I*I/2

The correct answer is: C*V*V/2

Question 6

Not answered

Mark 0.0 out of 1.0

The power dissipated by a resistor is equal to the square of the current flowing through the resistor divided by the resistance.

Select one:

- True
- False

The correct answer is 'False'.

Question 7

Not answered

Mark 0.0 out of 1.0

The current flowing through a resistor is equal to the value of the voltage across it multiplied by the resistance.

Select one:

- True
- False

The correct answer is 'False'.

Question 8

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, the one with the higher resistance will have a larger current flowing through it than the other resistor.

Select one:

- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 14.8mA current source, a 16.9kΩ resistor, a 19.4kΩ resistor and a 39.3kΩ resistor are all connected in parallel, then what is the current through the 16.9kΩ resistor in milliamps?

Answer:

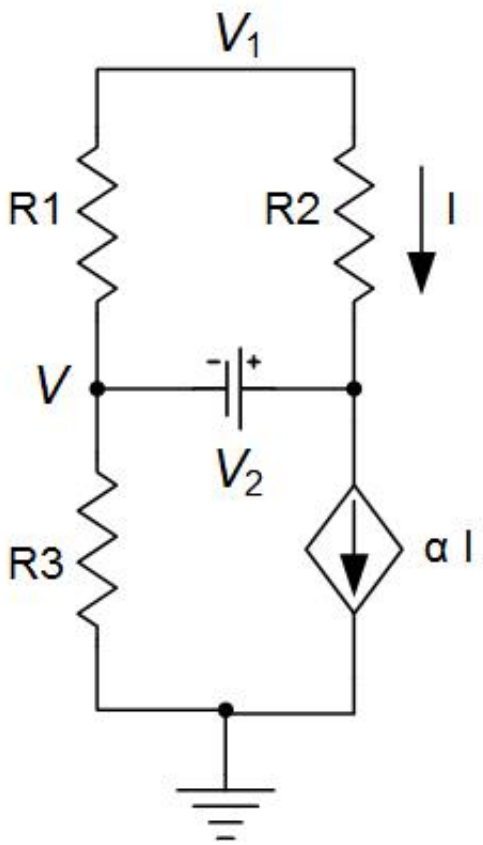
The correct answer is: 6.43

Started on	Friday, 8 September 2017, 7:01 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:05 PM
Time taken	4 mins 35 secs
Grade	**3.5** out of 10.0 (**35**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 10.3V, V2 = 1.5V, R1 = 13.7kΩ, R2 = 8.6kΩ, R3 = 19.0kΩ and α = 0.86.

Answer:

The correct answer is: 0.290

Question 2

Not answered

Mark 0.0 out of 1.0

What is the magnitude in ohms of the complex impedance, Z, for a 1215Ω resistor in series with a 7.8pF capacitor at 77.2MHz?

Answer:

The correct answer is: 1243.42

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. Inductors
- b. Capacitors
- c. Resistors
- d. All of these
- e. None of these

The correct answer is: Resistors

Question 4

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements does the phase of the voltage across the element lead the phase of the current flowing through it by 90 degrees?

Select one:

- a. Resistors
- b. Capacitors
- c. Inductors ✓
- d. None of these
- e. All of these

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 5

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and more current flows through R1 than through R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. No way to determine
- c. R1 has a lower resistance than R2 ✓
- d. None of these
- e. R1 has the same resistance as R2

The correct answer is: R1 has a lower resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in series, both resistors will have the same current flowing through them.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all independent voltage and current sources are set equal to zero.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

The voltage across a capacitor is equal to the value of the charge stored on it divided by the capacitance.

Select one:

- True ✓
- False

The correct answer is 'True'.

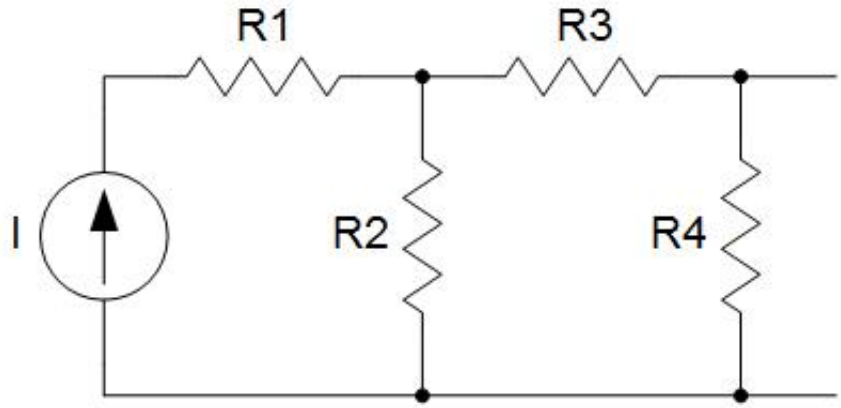
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 18.2mA, R1 = 4.8kΩ, R2 = 16.7kΩ, R3 = 15.9kΩ and R4 = 12.5kΩ.

Answer:

The correct answer is: 9.32

Question 10

Not answered

Mark 0.0 out of 1.0

If a 17.6pF capacitor is connected in parallel with a 44.8pF capacitor and a 11.0pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

Answer:

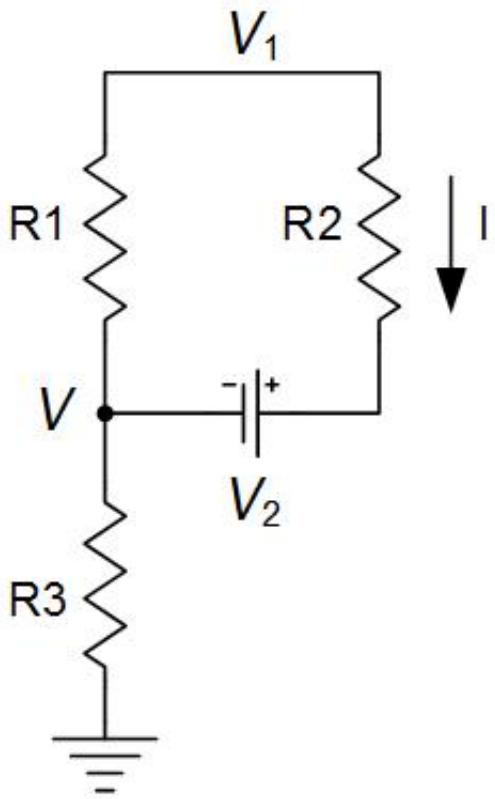
The correct answer is: 73.40

Started on	Friday, 8 September 2017, 7:10 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:12 PM
Time taken	1 min 58 secs
Grade	**3.0** out of 10.0 (**30**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 6.4V, V2 = 0.5V, R1 = 15.2kΩ, R2 = 1.9kΩ, and R3 = 14.4kΩ.

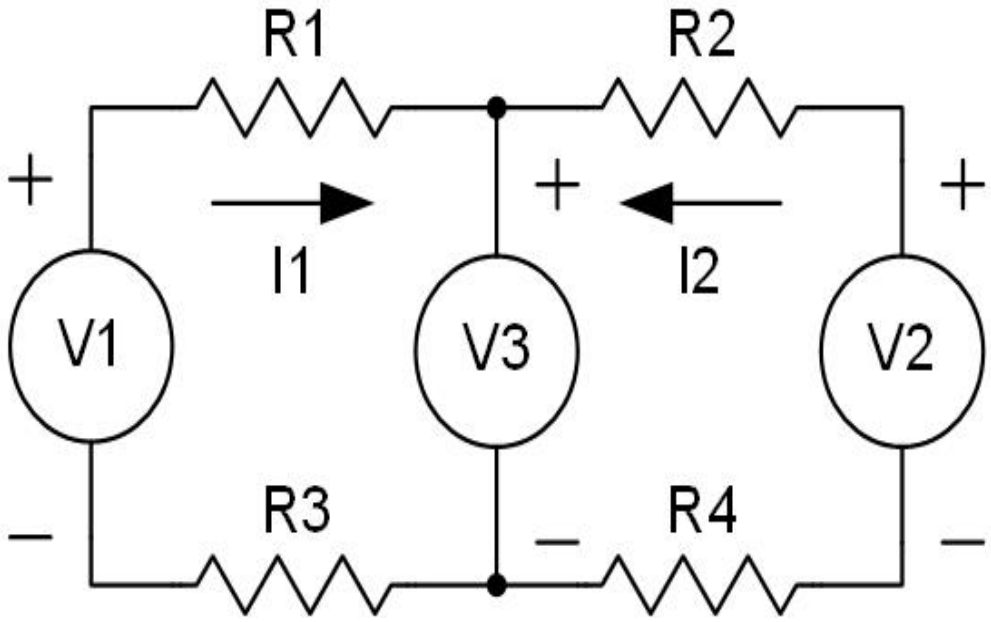
Answer:

The correct answer is: 0.300

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 15.6V, V2 = 4.8V, V3 = 4.8V, R1 = 6.8kΩ, R2 = 15.0kΩ, R3 = 1.1kΩ and R4 = 13.1kΩ.

Answer:

The correct answer is: 1.367

Question 3

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and less of the voltage appears across R1 than across R2, then :

Select one:

- a. No way to determine
- b. R1 has a higher resistance than R2
- c. R1 has the same resistance as R2
- d. R1 has a lower resistance than R2
- e. None of these

The correct answer is: R1 has a lower resistance than R2

Question 4

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and the same voltage appears across both R1 and R2, then :

Select one:

- a. R1 has a lower resistance than R2
- b. R1 has a higher resistance than R2
- c. No way to determine
- d. R1 has the same resistance as R2
- e. None of these

The correct answer is: R1 has the same resistance as R2

Question 5

Correct

Mark 1.0 out of 1.0

Resistors in parallel can be combined to find the total equivalent resistance by :

Select one:

- a. Adding the reciprocal of each resistance together
- b. Adding the resistances together
- c. Taking the reciprocal of the sum of the reciprocals of each resistance ✓
- d. Multiplying the resistances together
- e. None of the these

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each resistance

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

Nodal analysis is easier to perform than Mesh analysis for circuits that have fewer nodes than loops.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Norton's equivalent current for a circuit is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 18.0V voltage source is applied across a 38.2kΩ resistor connected in series with a 14.4kΩ resistor and a 13.9kΩ resistor, then what is the voltage across the 14.4kΩ resistor in volts?

Answer:

The correct answer is: 3.90

Question 10

Not answered

Mark 0.0 out of 1.0

If a 10.9mA current source, a 18.6kΩ resistor, a 30.2kΩ resistor and a 28.2kΩ resistor are all connected in parallel, then what is the current through the 30.2kΩ resistor in milliamps?

Answer:

The correct answer is: 2.95

Started on	Friday, 8 September 2017, 7:06 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:09 PM
Time taken	2 mins 54 secs
Grade	**2.0** out of 10.0 (**20**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 4.5V voltage source is applied across a 6.3kΩ resistor connected in series with a 33.4kΩ resistor and a 34.3kΩ resistor, then what is the voltage across the 34.3kΩ resistor in volts?

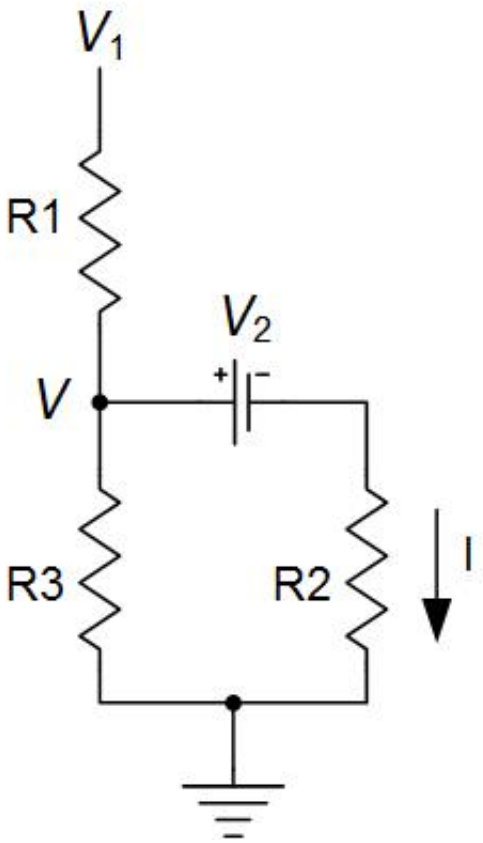
Answer:

The correct answer is: 2.09

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 8.2V, V2 = 0.5V, R1 = 18.7kΩ, R2 = 3.2kΩ, and R3 = 2.4kΩ.

Answer:

The correct answer is: 0.081

Question 3

Not answered

Mark 0.0 out of 1.0

Inductors in series can be combined to find the total equivalent inductance by :

Select one:

- a. None of the these
- b. Multiplying the inductances together
- c. Taking the reciprocal of the sum of the reciprocals of each inductance
- d. Adding the inductances together
- e. Adding the reciprocal of each inductance together

The correct answer is: Adding the inductances together

Question 4

Not answered

Mark 0.0 out of 1.0

If at t=0 the voltage applied across an ideal resistor is suddenly increased, then the current flowing through the resistor will :

Select one:

- a. Increase at the same rate as the voltage
- b. None of these
- c. Stay constant and not increase
- d. Increase more slowly than the voltage
- e. Increase more quickly than the voltage

The correct answer is: Increase at the same rate as the voltage

Question 5

Not answered

Mark 0.0 out of 1.0

Resistors in series can be combined to find the total equivalent resistance by :

Select one:

- a. Taking the reciprocal of the sum of the reciprocals of each resistance
- b. None of the these
- c. Adding the reciprocal of each resistance together
- d. Adding the resistances together
- e. Multiplying the resistances together

The correct answer is: Adding the resistances together

Question 6

Correct

Mark 1.0 out of 1.0

Capacitors in series can be combined to find the total equivalent capacitance by adding the capacitances together.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the short circuit output voltage of the circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

An inductor looks like a open circuit at very low frequencies.

Select one:

- True
- False ✓

The correct answer is 'False'.

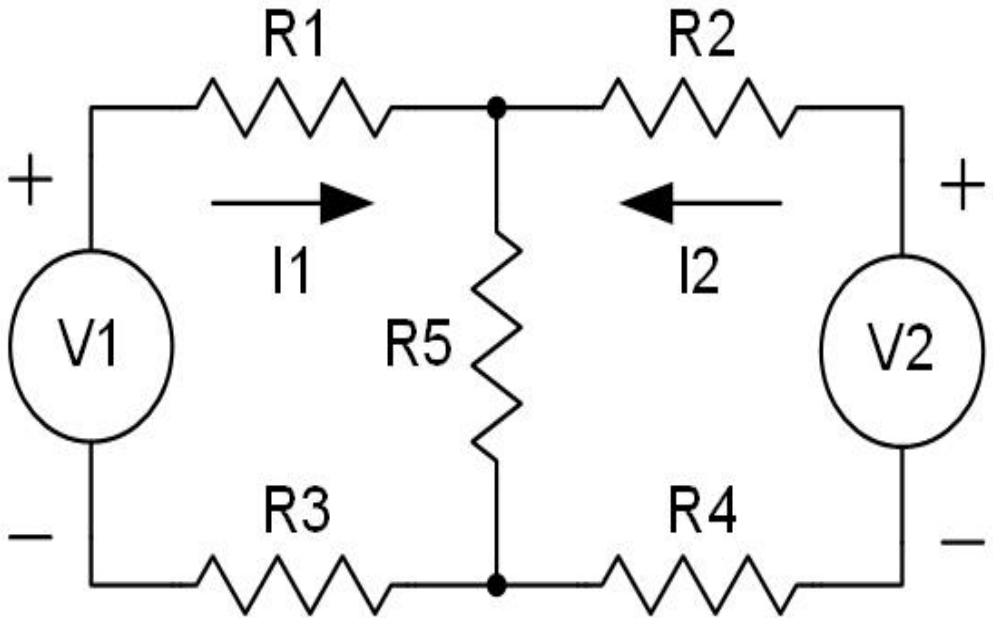
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 17.8V, V2 = 13.7V, R1 = 7.6kΩ, R2 = 7.9kΩ, R3 = 13.7kΩ, R4 = 4.0kΩ and R5 = 7.2kΩ.

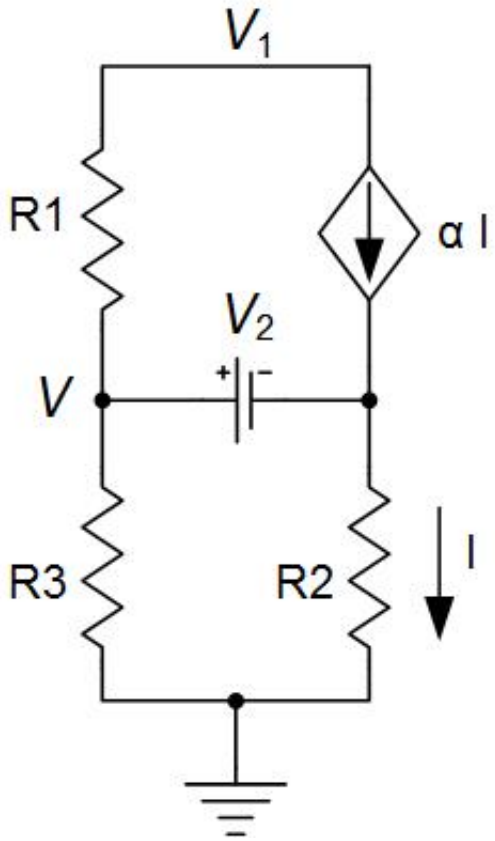
Answer:

The correct answer is: 0.490

Question 10

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 15.2V, V2 = 1.1V, R1 = 12.9kΩ, R2 = 9.1kΩ, R3 = 10.2kΩ and α = 0.94.

Answer:

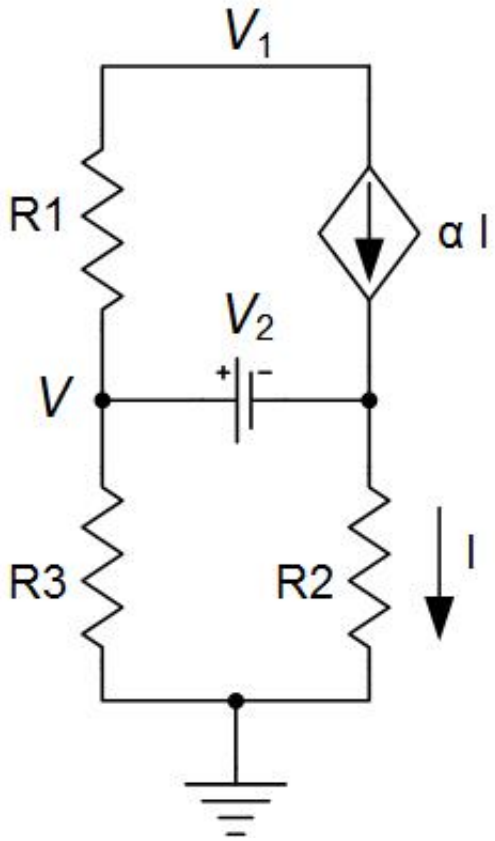
The correct answer is: 6.51

Started on	Saturday, 9 September 2017, 2:03 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:04 PM
Time taken	1 min 8 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Incorrect

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 14.3V, V2 = 0.8V, R1 = 13.5kΩ, R2 = 2.8kΩ, R3 = 5.7kΩ and α = 0.87.

Answer: 6.5 ✗

The correct answer is: 3.70

Incorrect

Marks for this submission: 0.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0

If the Thevenin equivalent for a circuit is a 15.4V voltage source in series with a 10.2kΩ resistor, then what is the Norton equivalent resistance for this circuit in kilohms?

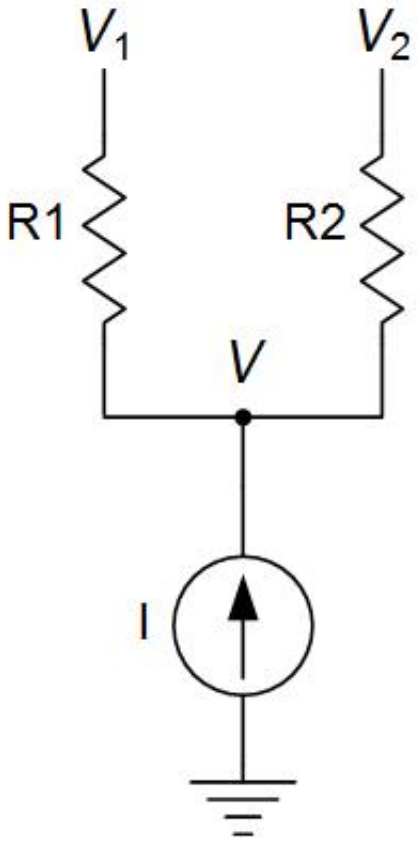
Answer: ✗

The correct answer is: 10.20

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 9.9V, V2 = 9.8V, I = 0.2mA, R1 = 11.1kΩ, and R2 = 19.9kΩ.

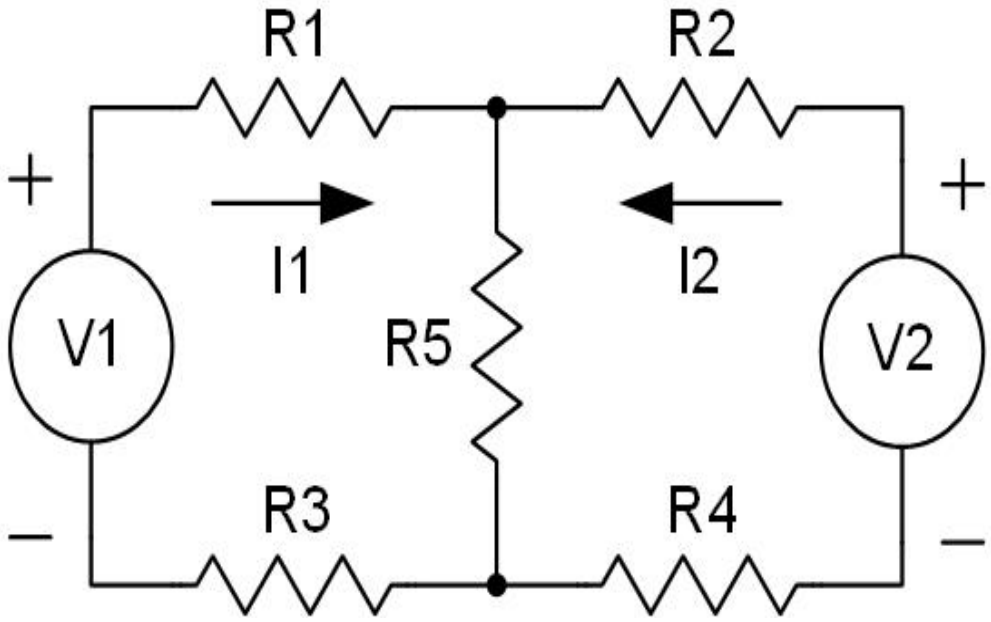
Answer:

The correct answer is: 11.29

Question 4

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 10.1V, V2 = 4.8V, R1 = 19.0kΩ, R2 = 12.9kΩ, R3 = 12.9kΩ, R4 = 15.7kΩ and R5 = 16.6kΩ.

Answer:

The correct answer is: 0.197

Question 5

Not answered

Mark 0.0 out of 1.0

The phrase “ELI the ICE man” is a good way to remember that :

Select one:

- a. Voltage lags current in an inductor and current lags voltage in a capacitor
- b. Voltage lags current in an inductor and current leads voltage in a capacitor
- c. None of these
- d. Voltage leads current in an inductor and current lags voltage in a capacitor
- e. Voltage leads current in an inductor and current leads voltage in a capacitor

The correct answer is: Voltage leads current in an inductor and current leads voltage in a capacitor

Question 6

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the derivative of the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. None of these
- b. Capacitors
- c. Resistors
- d. All of these
- e. Inductors

The correct answer is: Inductors

Question 7

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in parallel, R1 and R2, and more current flows through R1 than through R2, then :

Select one:

- a. R1 has a lower resistance than R2
- b. None of these
- c. R1 has the same resistance as R2
- d. R1 has a higher resistance than R2
- e. No way to determine

The correct answer is: R1 has a lower resistance than R2

Question 8

Not answered

Mark 0.0 out of 1.0

The voltage across a capacitor is equal to the value of the charge stored on it multiplied by the capacitance.

Select one:

- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent resistance for a circuit is always equal to the Norton’s equivalent resistance for the same circuit.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all independent voltage and current sources are set equal to zero.

Select one:

- True
- False

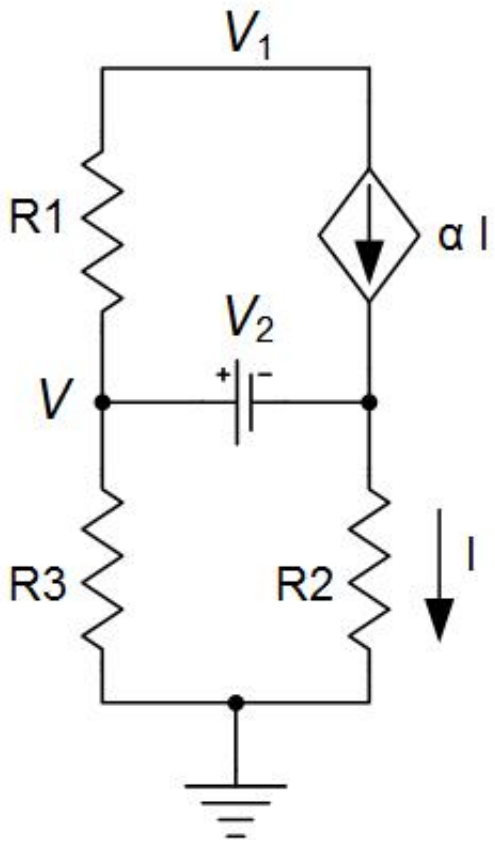
The correct answer is 'True'.

Started on	Friday, 8 September 2017, 7:12 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:22 PM
Time taken	10 mins 20 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 12.2V, V2 = 1.3V, R1 = 19.6kΩ, R2 = 6.0kΩ, R3 = 9.8kΩ and α = 0.93.

Answer:

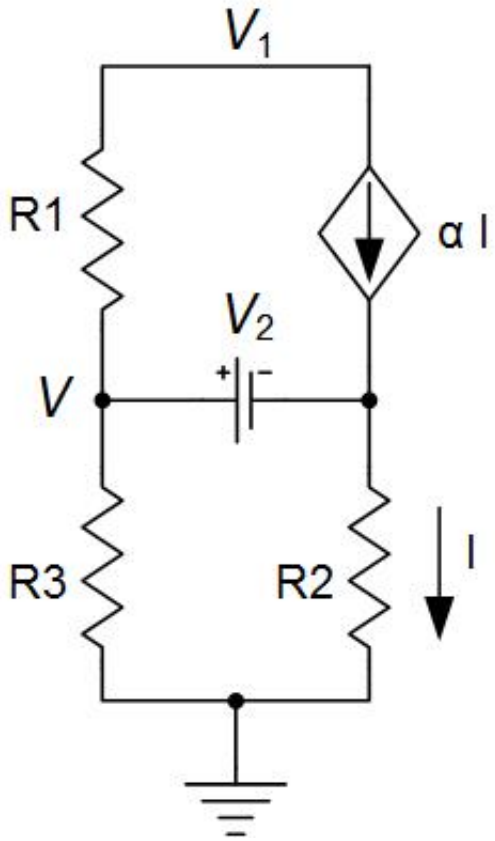
The correct answer is: 0.428

Started on	Friday, 8 September 2017, 11:05 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:11 PM
Time taken	5 mins 35 secs
Grade	**5.0** out of 10.0 (**50**%)

Question 1

Incorrect

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 12.6V, V2 = 1.3V, R1 = 8.6kΩ, R2 = 2.4kΩ, R3 = 13.9kΩ and α = 0.90.

Answer: .44 ✗

The correct answer is: 2.212

Incorrect

Marks for this submission: 0.0/1.0.

Question 2

Correct

Mark 1.0 out of 1.0

If a 19.2V voltage source is applied across a 17.3kΩ resistor connected in series with a 34.5kΩ resistor and a 26.4kΩ resistor, then what is the voltage across the 34.5kΩ resistor in volts?

Answer: 8.47 ✓

The correct answer is: 8.47

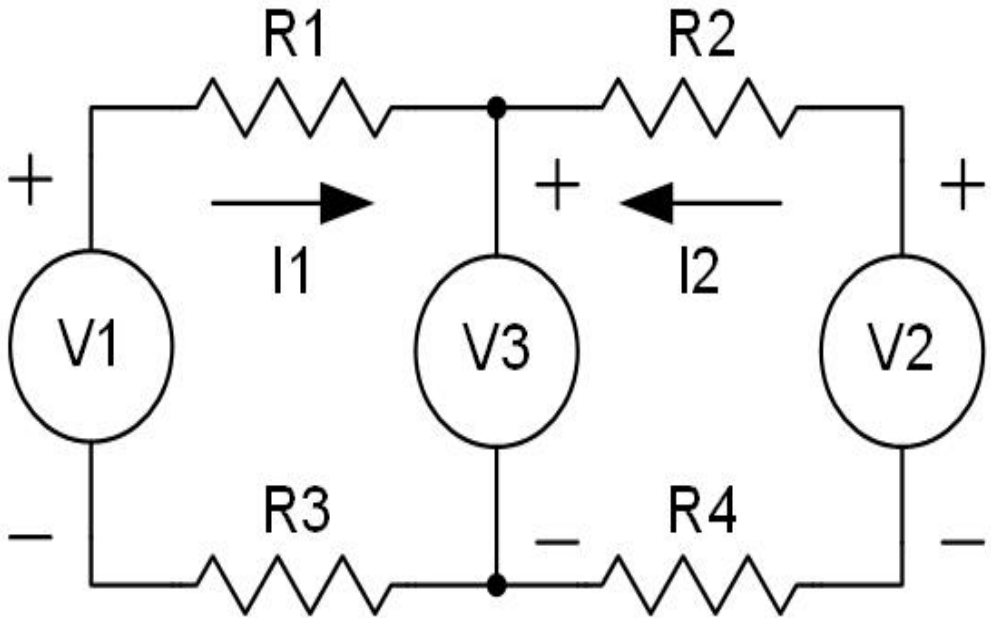
Correct

Marks for this submission: 1.0/1.0.

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current flowing into the V3 source, I1+I2, in milliamps? Use: V1 = 6.5V, V2 = 6.0V, V3 = 6.2V, R1 = 5.0kΩ, R2 = 5.1kΩ, R3 = 8.7kΩ and R4 = 7.6kΩ.

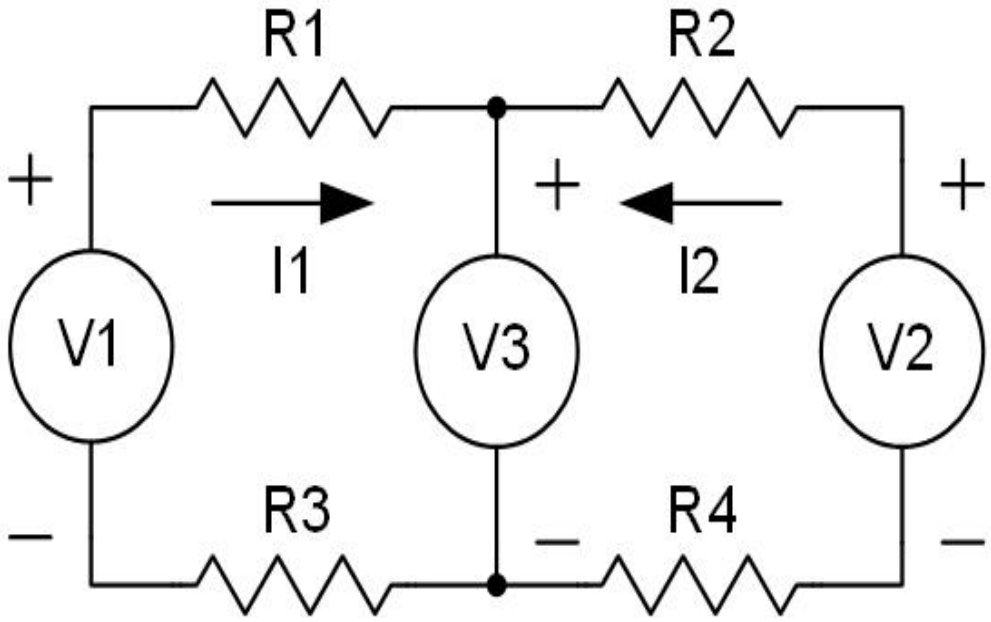
Answer:

The correct answer is: 0.006

Question 4

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 13.2V, V2 = 19.0V, V3 = 10.6V, R1 = 18.7kΩ, R2 = 14.7kΩ, R3 = 12.7kΩ and R4 = 6.6kΩ.

Answer:

The correct answer is: 0.083

Question 5

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and more of the voltage appears across R1 than across R2, then :

Select one:

- a. No way to determine
- b. R1 has a higher resistance than R2 ✓
- c. R1 has a lower resistance than R2
- d. None of these
- e. R1 has the same resistance as R2

The correct answer is: R1 has a higher resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 0.5 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal inductor is increased, then the current flowing through the inductor will :

Select one:

- a. No way to determine
- b. Decrease ✓
- c. None of these
- d. Stay constant
- e. Increase

The correct answer is: Decrease

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 7

Correct

Mark 0.5 out of 1.0

Which of the following is NOT true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. None of these ✓
- b. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance
- c. The Norton's equivalent current is the output current with a short circuit at the output
- d. The Thevenin's equivalent voltage is equal to the Norton's equivalent current multiplied by the Thevenin's equivalent resistance
- e. The Thevenin's equivalent voltage is the output voltage with an open circuit at the output

The correct answer is: None of these

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Started on	Saturday, 9 September 2017, 2:34 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:43 PM
Time taken	8 mins 50 secs
Grade	**5.5** out of 10.0 (**55**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 18.7pF capacitor, a 9.0pF capacitor and a 48.6pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

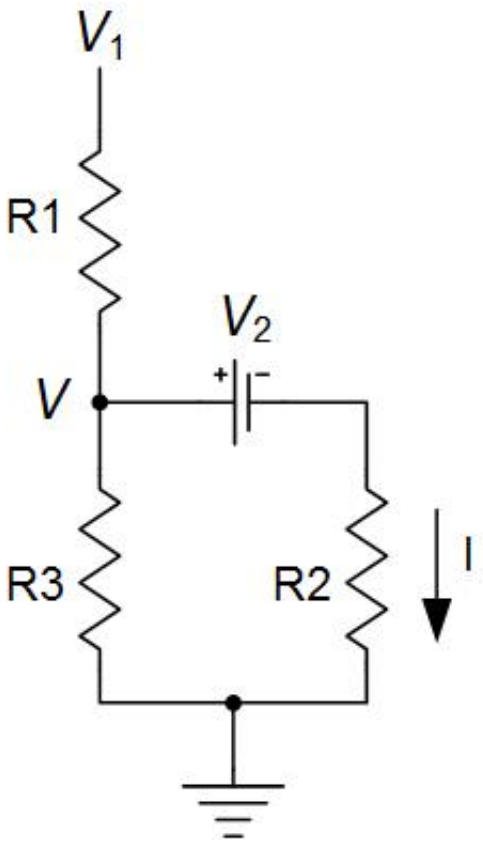
Answer:

The correct answer is: 5.40

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 10.3V, V2 = 0.8V, R1 = 1.1kΩ, R2 = 6.6kΩ, and R3 = 11.6kΩ.

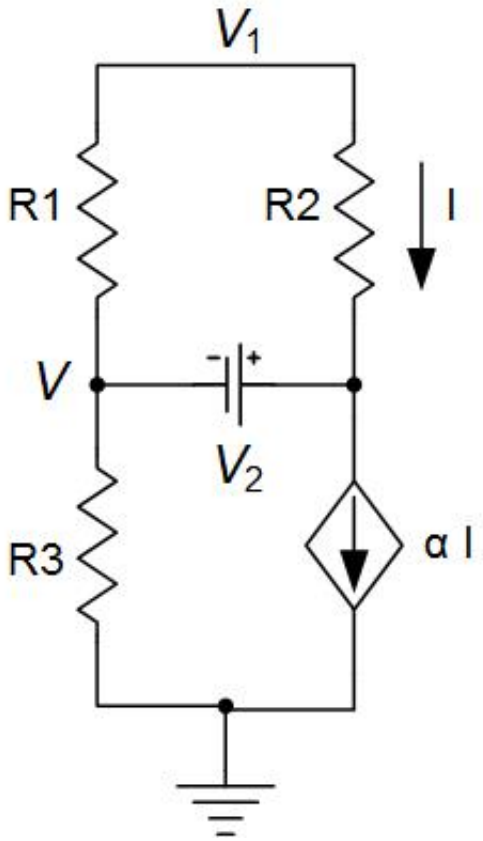
Answer: ✗

The correct answer is: 8.27

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 13.0V, V2 = 1.7V, R1 = 2.3kΩ, R2 = 8.2kΩ, R3 = 3.4kΩ and α = 0.94.

Answer:

The correct answer is: 0.428

Question 4

Correct

Mark 1.0 out of 1.0

If a resistor has 5.1 volts across it when 0.13mA flow through it, then what is the value of this resistor in kilohms?

Answer: 39.23

The correct answer is: 39.23

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and less of the voltage appears across R1 than across R2, then :

Select one:

- a. R1 has the same resistance as R2
- b. R1 has a higher resistance than R2
- c. None of these
- d. R1 has a lower resistance than R2 ✓
- e. No way to determine

The correct answer is: R1 has a lower resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the derivative of the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. Inductors
- b. Capacitors ✓
- c. None of these
- d. Resistors
- e. All of these

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 0.5 out of 1.0

Which of the following is NOT true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. None of these
- b. The Thevenin's equivalent voltage is the output voltage with an open circuit at the output
- c. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance
- d. The Norton's equivalent current is the output current with a short circuit at the output
- e. The Norton's equivalent current is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance ✓

The correct answer is: The Norton's equivalent current is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in parallel, both resistors will have the same voltage across them.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

Resistors in series can be combined to find the total equivalent resistance by adding the resistances together.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 0.0 out of 1.0

If a current source is applied to two resistors in series, the one with the higher resistance will have a smaller voltage across it than the other resistor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

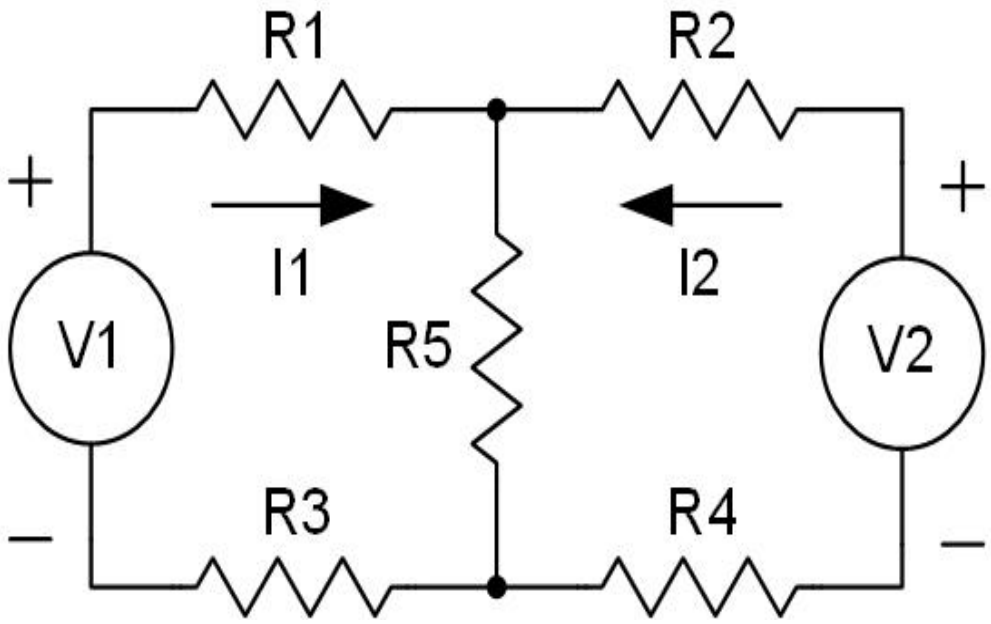
Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Started on	Saturday, 9 September 2017, 1:57 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:59 PM
Time taken	2 mins 5 secs
Grade	**3.0** out of 10.0 (**30**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 14.3V, V2 = 11.2V, R1 = 8.5kΩ, R2 = 15.2kΩ, R3 = 10.9kΩ, R4 = 19.3kΩ and R5 = 7.1kΩ.

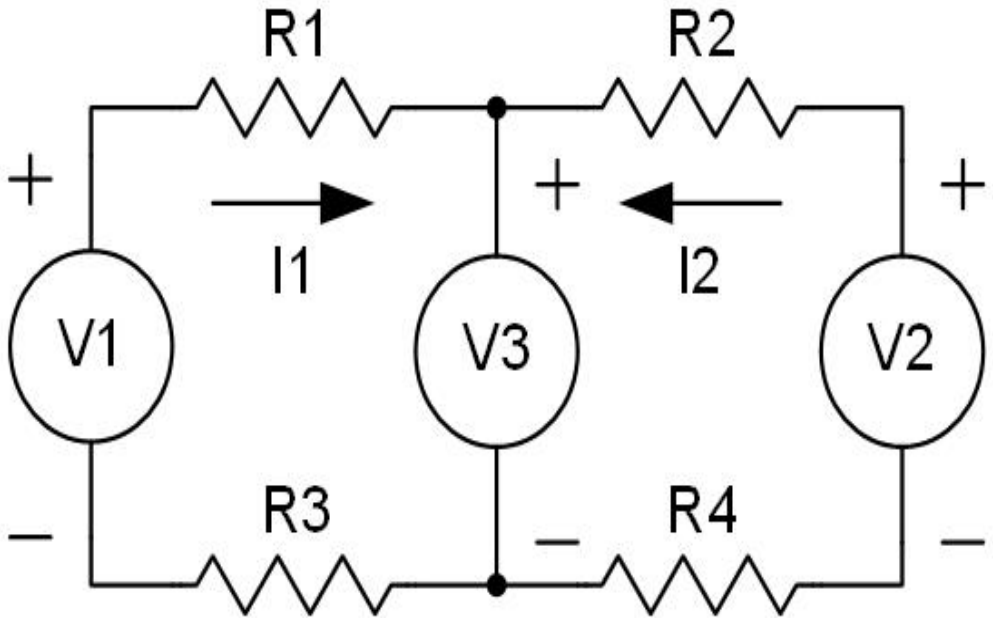
Answer:

The correct answer is: 0.186

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current flowing into the V3 source, I1+I2, in milliamps? Use: V1 = 17.7V, V2 = 11.8V, V3 = 6.8V, R1 = 7.8kΩ, R2 = 18.8kΩ, R3 = 18.2kΩ and R4 = 7.9kΩ.

Answer:

The correct answer is: 0.606

Question 3

Not answered

Mark 0.0 out of 1.0

If a 12.2nH inductor is connected in series with a 7.6nH inductor and a 38.4nH inductor, then what is the total inductance of this series combination in nano Henries ?

Answer:

The correct answer is: 58.20

Question 4

Not answered

Mark 0.0 out of 1.0

If a resistor has 12.5 volts across it when 4.62mA flow through it, then what is the value of the power dissipated by this resistor in milliwatts?

Answer:

The correct answer is: 57.75

Question 5

Not answered

Mark 0.0 out of 1.0

The energy stored by a resistor is given by :

Select one:

- a. R*V/I
- b. None of the these
- c. R*V*I
- d. R*I*I/2
- e. R*V*V/2

The correct answer is: None of the these

Question 6

Correct

Mark 0.5 out of 1.0

If a current source is applied to two resistors in series, R1 and R2, and less voltage appears across R1 than across R2, then :

Select one:

- a. No way to determine
- b. R1 has a lower resistance than R2 ✓
- c. R1 has a higher resistance than R2
- d. None of these
- e. R1 has the same resistance as R2

The correct answer is: R1 has a lower resistance than R2

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 7

Correct

Mark 0.5 out of 1.0

Resistors in parallel can be combined to find the total equivalent resistance by :

Select one:

- a. None of the these
- b. Multiplying the resistances together
- c. Adding the reciprocal of each resistance together
- d. Adding the resistances together
- e. Taking the reciprocal of the sum of the reciprocals of each resistance ✓

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each resistance

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

Nodal analysis and Mesh analysis always give the same results for the same circuit.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 0.0 out of 1.0

The Norton's equivalent current for a circuit is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 10

Correct

Mark 1.0 out of 1.0

Nodal analysis is easier to perform than Mesh analysis for circuits that have fewer loops than nodes.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

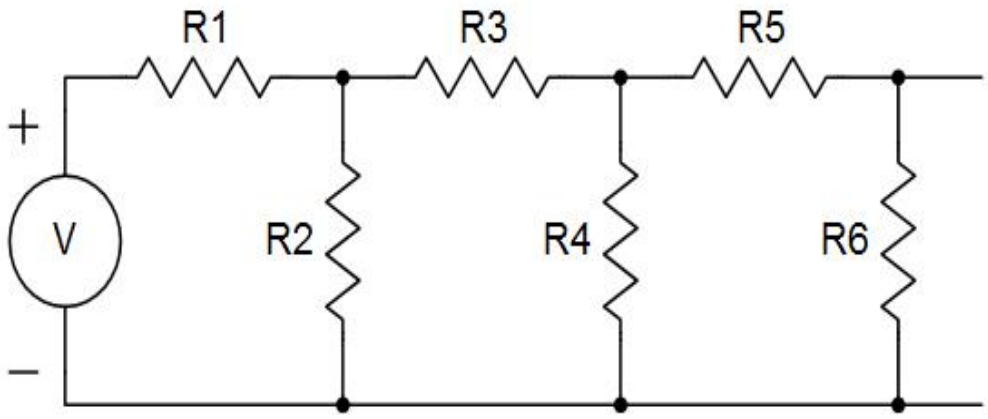
Marks for this submission: 1.0/1.0.

Started on	Saturday, 9 September 2017, 1:47 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:56 PM
Time taken	8 mins 49 secs
Grade	**7.2** out of 10.0 (**72**%)

Question 1

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 19.3V, R1 = 16.9kΩ, R2 = 10.3kΩ, R3 = 3.6kΩ, R4 = 30.9kΩ, R5 = 12.5kΩ and R6 = 21.7kΩ.

Answer:

The correct answer is: 10.42

Question 2

Correct

Mark 1.0 out of 1.0

If the Thevenin equivalent for a circuit is a 17.3V voltage source in series with a 12.0kΩ resistor, then what is the Norton equivalent current for this circuit in milliamps?

Answer: 1.44

The correct answer is: 1.44

Correct

Marks for this submission: 1.0/1.0.

Question 3

Correct

Mark 1.0 out of 1.0

If a 23.8kΩ resistor is connected in series with a 48.5kΩ resistor, then what is the total resistance of this series combination in kilohms?

Answer: 72.3

The correct answer is: 72.30

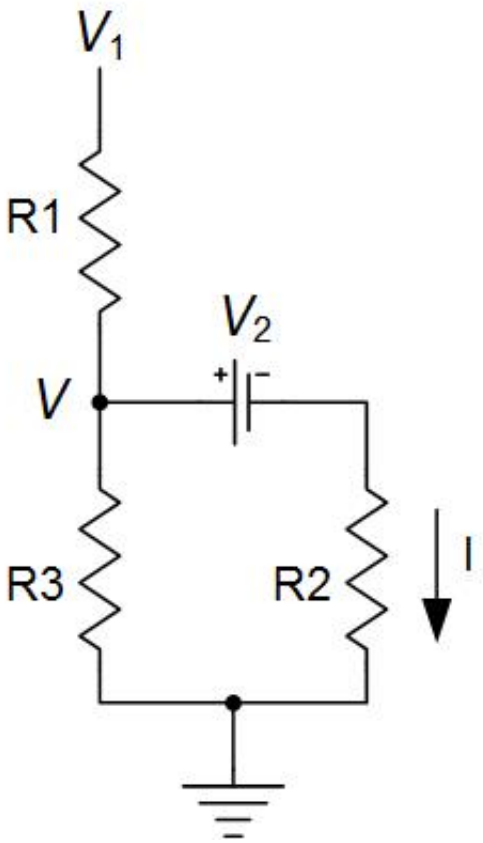
Correct

Marks for this submission: 1.0/1.0.

Question 4

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 12.6V, V2 = 1.4V, R1 = 8.8kΩ, R2 = 5.1kΩ, and R3 = 4.3kΩ.

Answer:

The correct answer is: 0.342

Question 5

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. Inductors
- b. None of these
- c. Resistors ✓
- d. Capacitors
- e. All of these

The correct answer is: Resistors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 0.7 out of 1.0

The power dissipated by a resistor is given by :

Select one:

- a. I*R
- b. None of the these
- c. V*V/R ✓
- d. V/R
- e. I*I/R

The correct answer is: V*V/R

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.7/1.0**.

Question 7

Correct

Mark 0.5 out of 1.0

Capacitors in parallel can be combined to find the total equivalent capacitance by :

Select one:

- a. None of the these
- b. Taking the reciprocal of the sum of the reciprocals of each capacitance
- c. Multiplying the capacitances together
- d. Adding the reciprocal of each capacitance together
- e. Adding the capacitances together ✓

The correct answer is: Adding the capacitances together

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

For a capacitor, the phase of the voltage leads the current by 90 degrees.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

Resistors in parallel can be combined to find the total equivalent resistance by taking the reciprocal of the sum of the reciprocals of each resistance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

In the phrase “ELI the ICE man” the letter E stands for “Electromotive Force”, which is another name for energy.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

The power dissipated by a resistor is equal to the square of the voltage across the resistor multiplied by the resistance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Correct

Mark 1.0 out of 1.0

Capacitors in parallel can be combined to find the total equivalent capacitance by taking the reciprocal of the sum of the reciprocals of each capacitance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

Nodal analysis is easier to perform than Mesh analysis for circuits that have fewer nodes than loops.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0

If a 23.6pF capacitor, a 3.0pF capacitor and a 45.8pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

Answer:

The correct answer is: 2.52

Question 3

Not answered

Mark 0.0 out of 1.0

If at t=0 the current flowing through an ideal voltage source is suddenly increased, then the voltage across the source will :

Select one:

- a. Increase more slowly than the current
- b. None of these
- c. Increase at the same rate as the current
- d. Increase more quickly than the current
- e. Stay constant and not increase

The correct answer is: Stay constant and not increase

Question 4

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance increase as frequency decreases?

Select one:

- a. Capacitors
- b. Inductors
- c. Resistors
- d. None of these
- e. All of these

The correct answer is: Capacitors

Question 5

Not answered

Mark 0.0 out of 1.0

If a circuit has 3 nodes and 2 loops in it, then :

Select one:

- a. Nodal analysis will require solving more equations than Mesh analysis
- b. Both Nodal and Mesh analysis will require solving the same number of equations
- c. Mesh analysis will require solving more equations than Nodal analysis
- d. None of these
- e. It is impossible to determine which method will require solving more equations

The correct answer is: Nodal analysis will require solving more equations than Mesh analysis

Question 6

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in series, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True
- False

The correct answer is 'True'.

Question 7

Not answered

Mark 0.0 out of 1.0

The current through an ideal current source does not change as the voltage across it changes.

Select one:

- True
- False

The correct answer is 'True'.

Question 8

Not answered

Mark 0.0 out of 1.0

The Thevenin's equivalent resistance for a circuit is always equal to the Norton's equivalent resistance for the same circuit.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 12.8V voltage source is applied across a 47.5kΩ resistor connected in series with a 6.9kΩ resistor, then what is the voltage across the 47.5kΩ resistor in volts?

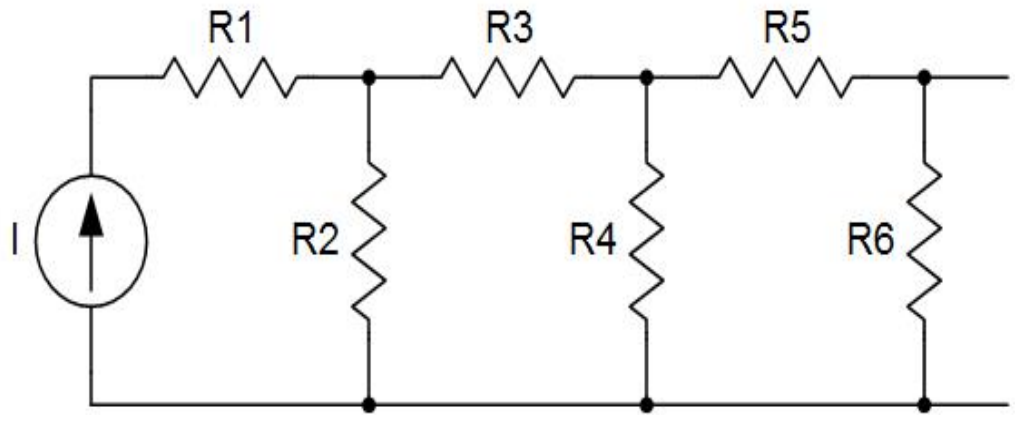
Answer:

The correct answer is: 11.18

Question 10

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 15.2mA, R1 = 7.1kΩ, R2 = 47.8kΩ, R3 = 7.1kΩ, R4 = 22.6kΩ, R5 = 7.4kΩ and R6 = 12.3kΩ.

Answer:

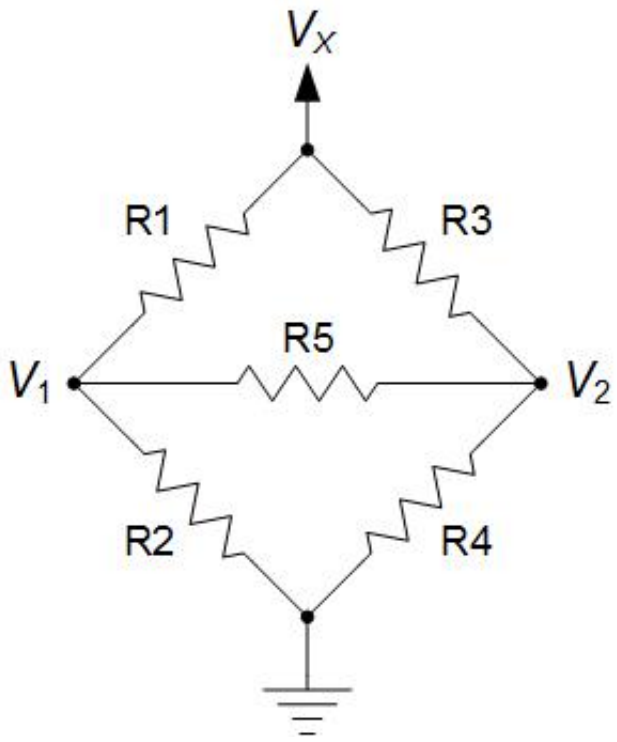
The correct answer is: 9.05

Started on	Friday, 8 September 2017, 7:24 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:27 PM
Time taken	3 mins 40 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the voltage V2 in volts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 5.7V, R1 = 2.1kΩ, R2 = 5.9kΩ, R3 = 6.8kΩ, R4 = 8.3kΩ and R5 = 7.9kΩ.

Answer:

The correct answer is: 3.44

Question 2

Not answered

Mark 0.0 out of 1.0

If the Thevenin equivalent for a circuit is a 19.2V voltage source in series with a 6.8kΩ resistor, then what is the Norton equivalent current for this circuit in milliamps?

Answer: ✗

The correct answer is: 2.82

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the phase of the current flowing through the element equal the phase of the voltage across it?

Select one:

- a. Resistors
- b. Inductors
- c. Capacitors
- d. None of these
- e. All of these

The correct answer is: Resistors

Question 4

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the derivative of the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. Resistors
- b. Inductors
- c. All of these
- d. Capacitors
- e. None of these

The correct answer is: Inductors

Question 5

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency decreases?

Select one:

- a. Inductors
- b. None of these
- c. All of these
- d. Resistors
- e. Capacitors

The correct answer is: Inductors

Question 6

Not answered

Mark 0.0 out of 1.0

The current through an ideal current source increases as the voltage across it increases.

Select one:

- True
- False

The correct answer is 'False'.

Question 7

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent resistance for a circuit is always equal to half of the value of the Norton’s equivalent resistance for the same circuit.

Select one:

- True
- False

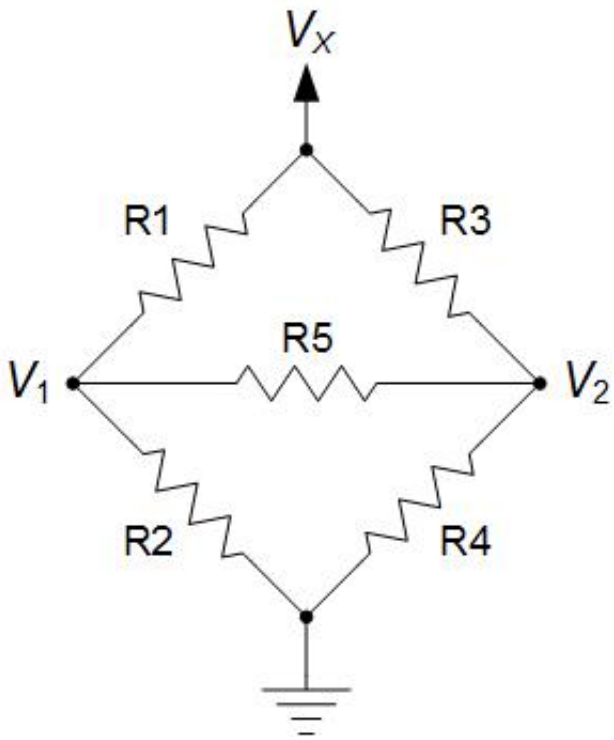
The correct answer is 'False'.

Started on	Friday, 8 September 2017, 11:12 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:15 PM
Time taken	3 mins 41 secs
Grade	**7.0** out of 10.0 (**70**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the voltage V2 in volts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 2.0V, R1 = 4.7kΩ, R2 = 7.8kΩ, R3 = 4.3kΩ, R4 = 3.2kΩ and R5 = 1.5kΩ.

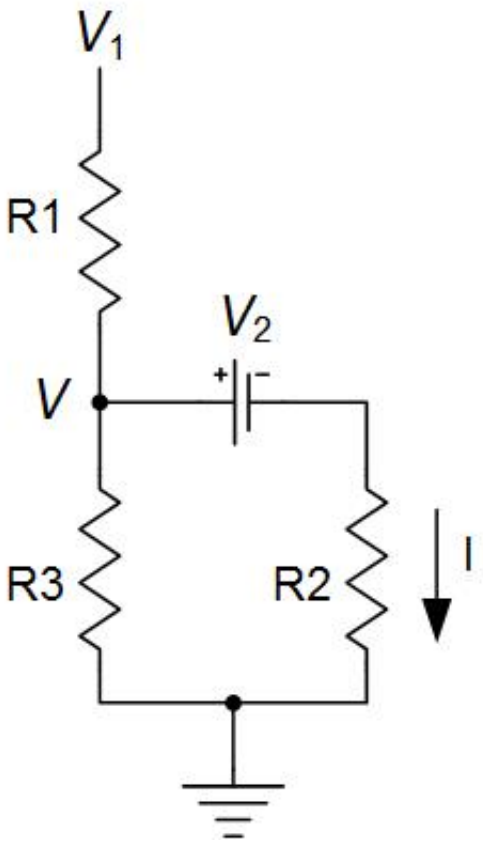
Answer:

The correct answer is: 0.97

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 14.6V, V2 = 1.3V, R1 = 16.5kΩ, R2 = 13.6kΩ, and R3 = 12.6kΩ.

Answer:

The correct answer is: 4.59

Question 3

Correct

Mark 1.0 out of 1.0

If a 17.5V voltage source is applied across a 7.6kΩ resistor connected in series with a 32.8kΩ resistor and a 43.2kΩ resistor, then what is the voltage across the 43.2kΩ resistor in volts?

Answer: 9.04

The correct answer is: 9.04

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a resistor has 11.0 volts across it when 7.61mA flow through it, then what is the value of this resistor in kilohms?

Answer: 1.45

The correct answer is: 1.45

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

In the phrase “ELI the ICE man” the letter E stands for “Electromotive Force”, which is another name for :

Select one:

- a. Power
- b. None of these
- c. Current
- d. Voltage
- e. Energy

The correct answer is: Voltage

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If a circuit has 3 nodes and 2 loops in it, then :

Select one:

- a. Both Nodal and Mesh analysis will require solving the same number of equations
- b. Nodal analysis will require solving more equations than Mesh analysis ✓
- c. Mesh analysis will require solving more equations than Nodal analysis
- d. None of these
- e. It is impossible to determine which method will require solving more equations

The correct answer is: Nodal analysis will require solving more equations than Mesh analysis

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency decreases?

Select one:

- a. Inductors ✓
- b. None of these
- c. Resistors
- d. All of these
- e. Capacitors

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

Resistors in series can be combined to find the total equivalent resistance by taking the reciprocal of the sum of the reciprocals of each resistance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

The current flowing through a resistor is equal to the value of the voltage across it divided by the resistance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 0.0 out of 1.0

The voltage across a resistor is equal to the value of the current flowing through it multiplied by the resistance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 8

Not answered

Mark 0.0 out of 1.0

The power dissipated by a resistor is equal to the square of the current flowing through the resistor multiplied by the resistance.

Select one:

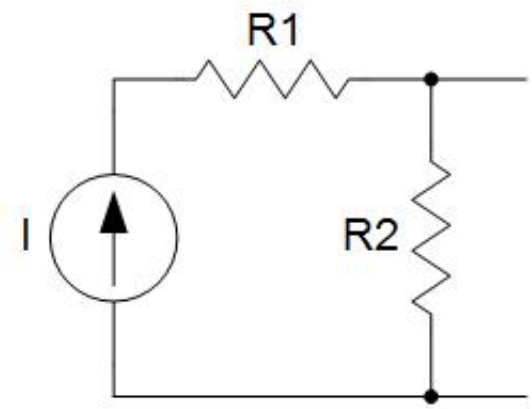
- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0



Use Norton's Theorem to find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 6.1mA, R1 = 12.1kΩ and R2 = 20.5kΩ.

Answer:

The correct answer is: 6.10

Question 10

Not answered

Mark 0.0 out of 1.0

If a 6.2mA current source is applied to a 9.4kΩ resistor connected in parallel with a 45.8kΩ resistor, then what is the current through the 45.8kΩ resistor in milliamps?

Answer:

The correct answer is: 1.06

Started on	Friday, 8 September 2017, 7:28 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:31 PM
Time taken	2 mins 46 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 47.0nH inductor, a 22.4nH inductor and a 21.1nH inductor are all connected in parallel, then what is the total inductance of this parallel combination in nano Henries ?

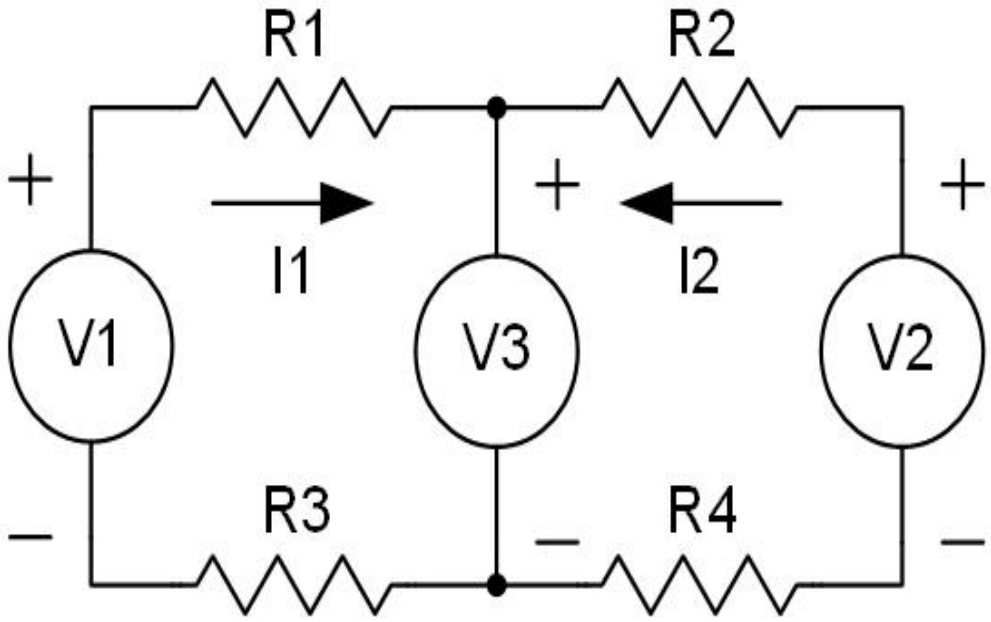
Answer:

The correct answer is: 8.83

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 8.9V, V2 = 4.8V, V3 = 17.1V, R1 = 8.8kΩ, R2 = 7.0kΩ, R3 = 10.7kΩ and R4 = 1.6kΩ.

Answer:

The correct answer is: -1.430

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency increases?

Select one:

- a. Resistors
- b. Capacitors
- c. All of these
- d. Inductors
- e. None of these

The correct answer is: Capacitors

Question 4

Not answered

Mark 0.0 out of 1.0

In the phrase “ELI the ICE man” the letter E stands for “Electromotive Force”, which is another name for :

Select one:

- a. None of these
- b. Power
- c. Energy
- d. Voltage
- e. Current

The correct answer is: Voltage

Question 5

Correct

Mark 0.0 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal inductor is decreased, then the current flowing through the inductor will :

Select one:

- a. Stay constant
- b. Decrease
- c. None of these
- d. Increase ✓
- e. No way to determine

The correct answer is: Increase

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 6

Not answered

Mark 0.0 out of 1.0

The charge stored on a capacitor is equal to the value of the voltage across the capacitor divided by the capacitance.

Select one:

- True
- False

The correct answer is 'False'.

Question 7

Not answered

Mark 0.0 out of 1.0

The power dissipated by an ideal inductor is equal to the square of the voltage across the inductor divided by the inductance.

Select one:

- True
- False

The correct answer is 'False'.

Question 8

Not answered

Mark 0.0 out of 1.0

The voltage across an ideal voltage source increases as the current through it increases.

Select one:

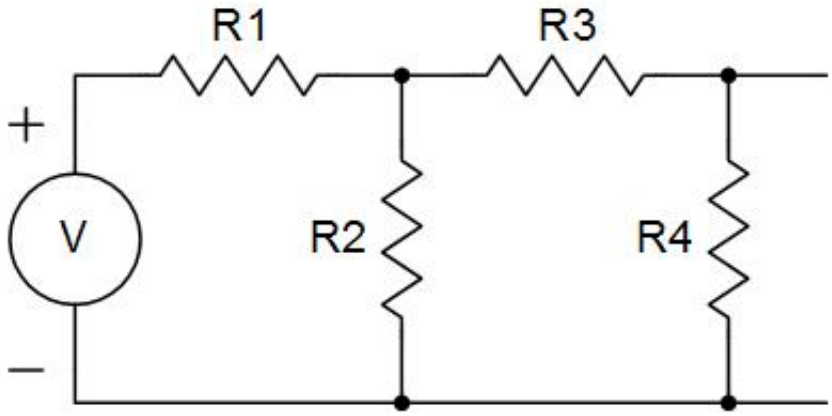
- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 3.1V, R1 = 40.9kΩ, R2 = 20.4kΩ, R3 = 31.2kΩ and R4 = 25.8kΩ.

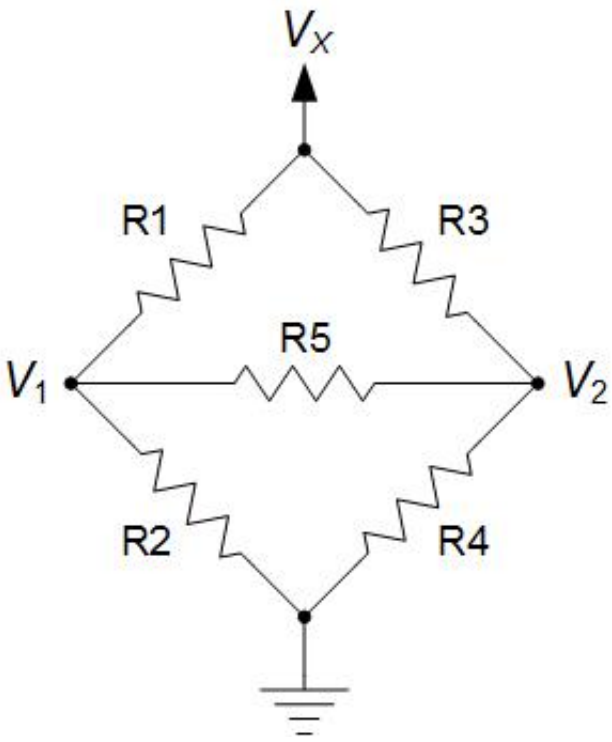
Answer:

The correct answer is: 16.37

Question 10

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the resistance seen by the voltage source Vx in kilohms? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 9.6V, R1 = 5.1kΩ, R2 = 6.5kΩ, R3 = 9.4kΩ, R4 = 2.1kΩ and R5 = 9.3kΩ.

Answer:

The correct answer is: 5.451150119

Started on	Friday, 8 September 2017, 7:31 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:33 PM
Time taken	2 mins 27 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 32.5pF capacitor is connected in parallel with a 19.6pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

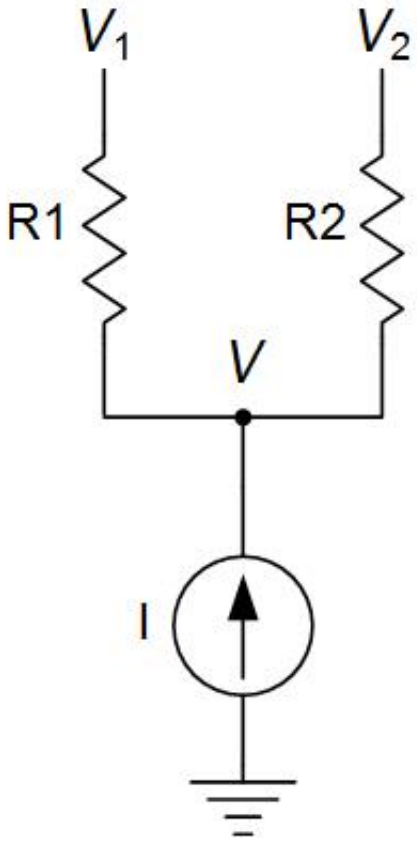
Answer:

The correct answer is: 52.10

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 6.2V, V2 = 13.3V, I = 0.4mA, R1 = 7.0kΩ, and R2 = 10.6kΩ.

Answer:

The correct answer is: 10.71

Question 3

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks like a short circuit at very low frequencies?

Select one:

- a. None of these
- b. Inductors
- c. Capacitors
- d. All of these
- e. Resistors

The correct answer is: Inductors

Question 4

Not answered

Mark 0.0 out of 1.0

Which of the following is true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. The Thevenin's equivalent voltage is equal to the Norton's equivalent current divided by the Norton's equivalent resistance
- b. All of these
- c. The Thevenin's equivalent voltage is the output voltage with a short circuit at the output
- d. The Norton's equivalent current is the output current with an open circuit at the output
- e. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance

The correct answer is: The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance

Question 5

Correct

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal resistor is increased, then the voltage across the resistor will :

Select one:

- a. None of these
- b. Decrease
- c. No way to determine
- d. Increase
- e. Stay constant ✓

The correct answer is: Stay constant

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 6

Not answered

Mark 0.0 out of 1.0

The current flowing through a resistor is equal to the value of the voltage across it divided by the resistance.

Select one:

- True
- False

The correct answer is 'True'.

Question 7

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in parallel, the one with the higher resistance will have a larger current flowing through it than the other resistor.

Select one:

- True
- False

The correct answer is 'False'.

Question 8

Not answered

Mark 0.0 out of 1.0

The power dissipated by an ideal capacitor is always equal to zero.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 46.6kΩ resistor, a 39.9kΩ resistor and a 31.8kΩ resistor are all connected in parallel, then what is the total resistance of this parallel combination in kilohms?

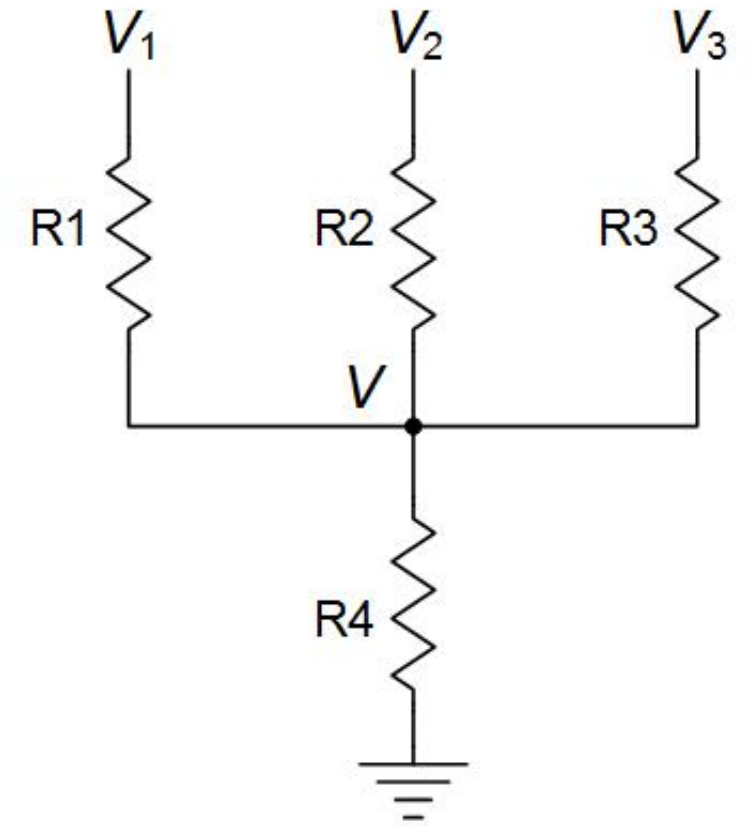
Answer:

The correct answer is: 12.83

Question 10

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 20.0V, V2 = 17.5V, V3 = 3.1V, R1 = 2.4kΩ, R2 = 12.3kΩ, R3 = 13.5kΩ, and R4 = 15.3kΩ.

Answer:

The correct answer is: 15.67

Started on	Friday, 8 September 2017, 7:28 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:31 PM
Time taken	2 mins 46 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 47.0nH inductor, a 22.4nH inductor and a 21.1nH inductor are all connected in parallel, then what is the total inductance of this parallel combination in nano Henries ?

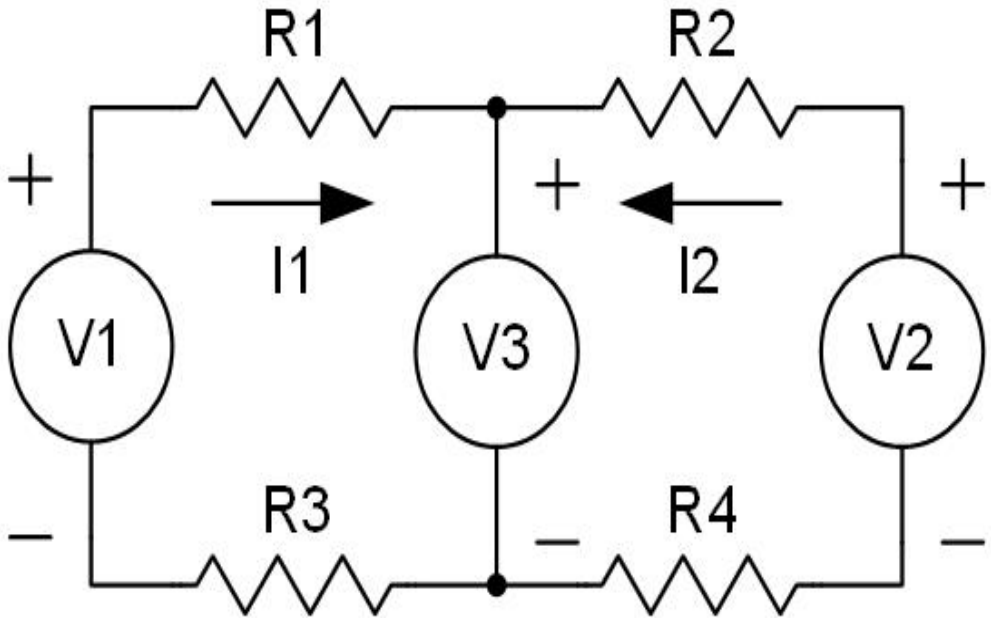
Answer:

The correct answer is: 8.83

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 8.9V, V2 = 4.8V, V3 = 17.1V, R1 = 8.8kΩ, R2 = 7.0kΩ, R3 = 10.7kΩ and R4 = 1.6kΩ.

Answer:

The correct answer is: -1.430

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency increases?

Select one:

- a. Resistors
- b. Capacitors
- c. All of these
- d. Inductors
- e. None of these

The correct answer is: Capacitors

Question 4

Not answered

Mark 0.0 out of 1.0

In the phrase “ELI the ICE man” the letter E stands for “Electromotive Force”, which is another name for :

Select one:

- a. None of these
- b. Power
- c. Energy
- d. Voltage
- e. Current

The correct answer is: Voltage

Question 5

Correct

Mark 0.0 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal inductor is decreased, then the current flowing through the inductor will :

Select one:

- a. Stay constant
- b. Decrease
- c. None of these
- d. Increase ✓
- e. No way to determine

The correct answer is: Increase

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 6

Not answered

Mark 0.0 out of 1.0

The charge stored on a capacitor is equal to the value of the voltage across the capacitor divided by the capacitance.

Select one:

- True
- False

The correct answer is 'False'.

Question 7

Not answered

Mark 0.0 out of 1.0

The power dissipated by an ideal inductor is equal to the square of the voltage across the inductor divided by the inductance.

Select one:

- True
- False

The correct answer is 'False'.

Question 8

Not answered

Mark 0.0 out of 1.0

The voltage across an ideal voltage source increases as the current through it increases.

Select one:

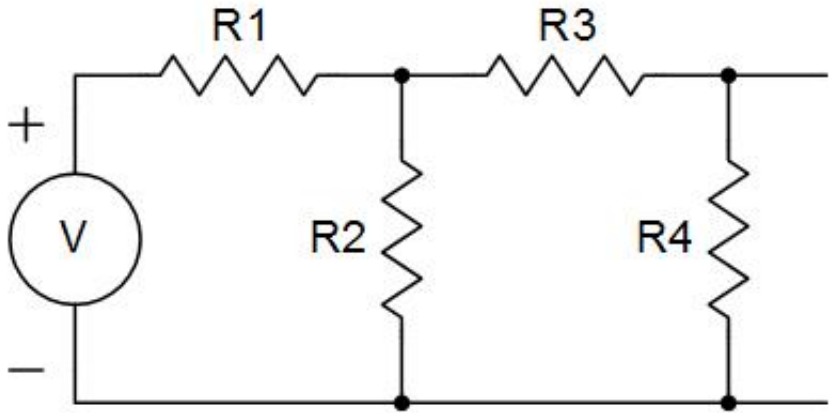
- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 3.1V, R1 = 40.9kΩ, R2 = 20.4kΩ, R3 = 31.2kΩ and R4 = 25.8kΩ.

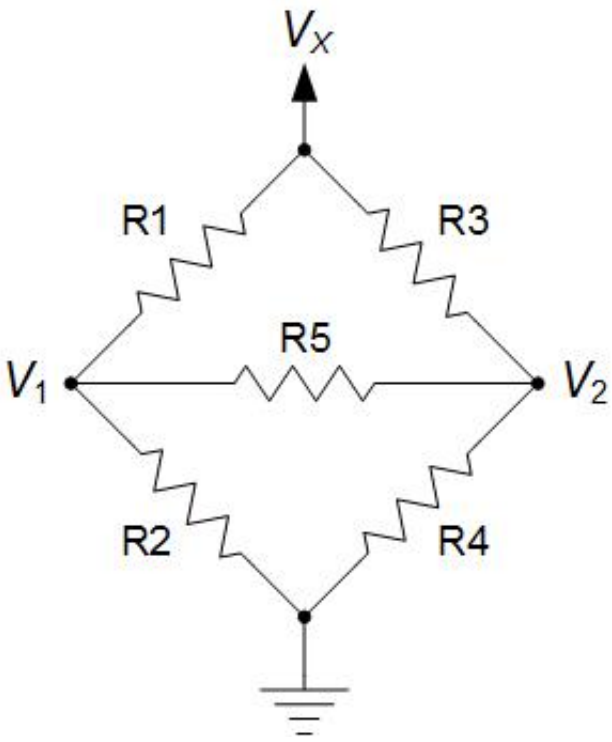
Answer:

The correct answer is: 16.37

Question 10

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the resistance seen by the voltage source Vx in kilohms? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 9.6V, R1 = 5.1kΩ, R2 = 6.5kΩ, R3 = 9.4kΩ, R4 = 2.1kΩ and R5 = 9.3kΩ.

Answer:

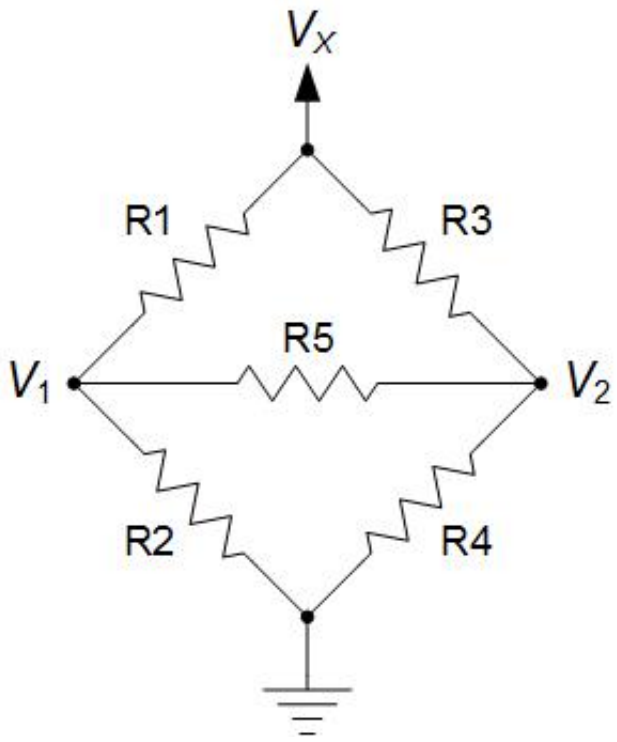
The correct answer is: 5.451150119

Started on	Friday, 8 September 2017, 7:24 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:27 PM
Time taken	3 mins 40 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the voltage V2 in volts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 5.7V, R1 = 2.1kΩ, R2 = 5.9kΩ, R3 = 6.8kΩ, R4 = 8.3kΩ and R5 = 7.9kΩ.

Answer:

The correct answer is: 3.44

Question 2

Not answered

Mark 0.0 out of 1.0

If the Thevenin equivalent for a circuit is a 19.2V voltage source in series with a 6.8kΩ resistor, then what is the Norton equivalent current for this circuit in milliamps?

Answer: ✗

The correct answer is: 2.82

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the phase of the current flowing through the element equal the phase of the voltage across it?

Select one:

- a. Resistors
- b. Inductors
- c. Capacitors
- d. None of these
- e. All of these

The correct answer is: Resistors

Question 4

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the derivative of the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. Resistors
- b. Inductors
- c. All of these
- d. Capacitors
- e. None of these

The correct answer is: Inductors

Question 5

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency decreases?

Select one:

- a. Inductors
- b. None of these
- c. All of these
- d. Resistors
- e. Capacitors

The correct answer is: Inductors

Question 6

Not answered

Mark 0.0 out of 1.0

The current through an ideal current source increases as the voltage across it increases.

Select one:

- True
- False

The correct answer is 'False'.

Question 7

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent resistance for a circuit is always equal to half of the value of the Norton’s equivalent resistance for the same circuit.

Select one:

- True
- False

The correct answer is 'False'.

Question 8

Not answered

Mark 0.0 out of 1.0

The power dissipated by a resistor is equal to the square of the current flowing through the resistor multiplied by the resistance.

Select one:

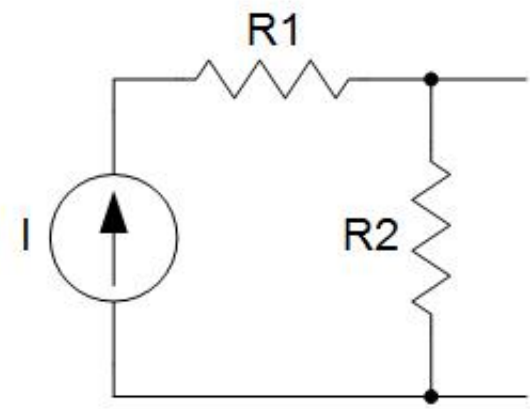
- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0



Use Norton's Theorem to find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 6.1mA, R1 = 12.1kΩ and R2 = 20.5kΩ.

Answer:

The correct answer is: 6.10

Question 10

Not answered

Mark 0.0 out of 1.0

If a 6.2mA current source is applied to a 9.4kΩ resistor connected in parallel with a 45.8kΩ resistor, then what is the current through the 45.8kΩ resistor in milliamps?

Answer:

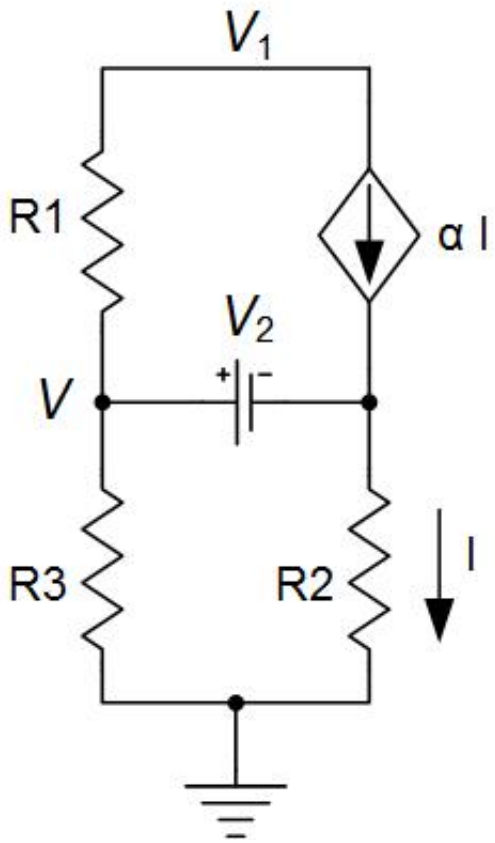
The correct answer is: 1.06

Started on	Friday, 8 September 2017, 7:12 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:22 PM
Time taken	10 mins 20 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 12.2V, V2 = 1.3V, R1 = 19.6kΩ, R2 = 6.0kΩ, R3 = 9.8kΩ and α = 0.93.

Answer:

The correct answer is: 0.428

Question 2

Not answered

Mark 0.0 out of 1.0

If a 23.6pF capacitor, a 3.0pF capacitor and a 45.8pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

Answer:

The correct answer is: 2.52

Question 3

Not answered

Mark 0.0 out of 1.0

If at t=0 the current flowing through an ideal voltage source is suddenly increased, then the voltage across the source will :

Select one:

- a. Increase more slowly than the current
- b. None of these
- c. Increase at the same rate as the current
- d. Increase more quickly than the current
- e. Stay constant and not increase

The correct answer is: Stay constant and not increase

Question 4

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance increase as frequency decreases?

Select one:

- a. Capacitors
- b. Inductors
- c. Resistors
- d. None of these
- e. All of these

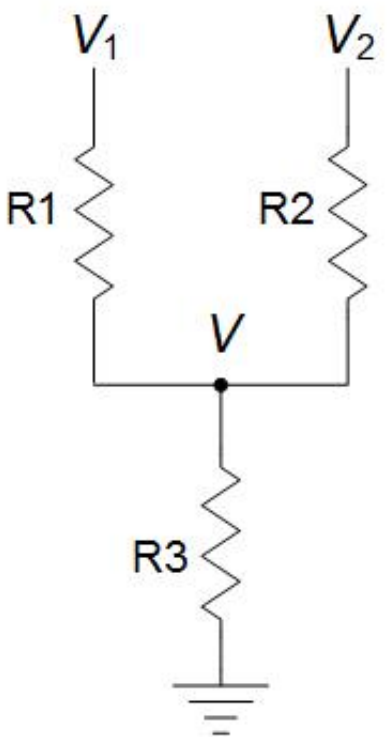
The correct answer is: Capacitors

Started on	Friday, 8 September 2017, 11:25 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:29 PM
Time taken	3 mins 24 secs
Grade	**1.0** out of 10.0 (**10**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 3.7V, V2 = 5.8V, R1 = 17.5kΩ, R2 = 6.7kΩ, and R3 = 8.3kΩ.

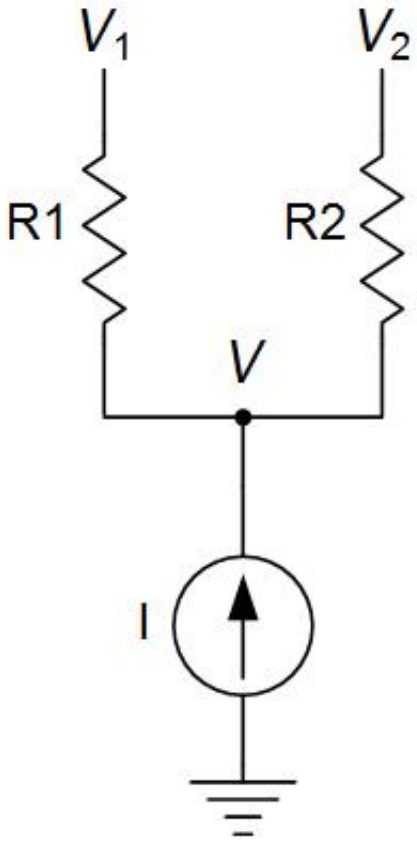
Answer:

The correct answer is: 3.30

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 10.9V, V2 = 3.6V, I = 0.5mA, R1 = 10.8kΩ, and R2 = 18.6kΩ.

Answer:

The correct answer is: 11.63

Question 3

Correct

Mark 1.0 out of 1.0

If a 41.9nH inductor is connected in series with a 13.4nH inductor and a 29.1nH inductor, then what is the total inductance of this series combination in nano Henries ?

Answer: 84.4

The correct answer is: 84.40

Correct

Marks for this submission: 1.0/1.0.

Question 4

Incorrect

Mark 0.0 out of 1.0

If a 18.0mA current source, a 5.6kΩ resistor, a 20.6kΩ resistor and a 39.0kΩ resistor are all connected in parallel, then what is the current through the 20.6kΩ resistor in milliamps?

Answer: 5.687 ✗

The correct answer is: 3.46

Incorrect

Marks for this submission: 0.0/1.0.

Question 5

Not answered

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal resistor is increased, then the voltage across the resistor will :

Select one:

- a. Decrease
- b. No way to determine
- c. Stay constant
- d. None of these
- e. Increase

The correct answer is: Stay constant

Question 6

Not answered

Mark 0.0 out of 1.0

If at t=0 the current flowing through an ideal voltage source is suddenly increased, then the voltage across the source will :

Select one:

- a. Increase at the same rate as the current
- b. Stay constant and not increase
- c. None of these
- d. Increase more slowly than the current
- e. Increase more quickly than the current

The correct answer is: Stay constant and not increase

Started on	Friday, 8 September 2017, 11:29 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:34 PM
Time taken	4 mins 29 secs
Grade	**4.5** out of 10.0 (**45**%)

Question 1

Not answered

Mark 0.0 out of 1.0

What is the magnitude in ohms of the complex impedance, Z, for a 107Ω resistor in series with a 9.4pF capacitor at 3.2MHz?

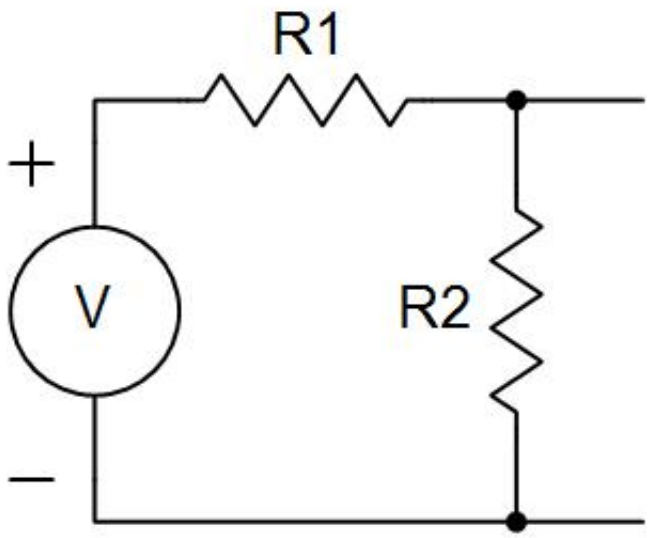
Answer:

The correct answer is: 5292.14

Question 2

Not answered

Mark 0.0 out of 1.0



Use Thevenin's Theorem to find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 19.9V, R1 = 44.3kΩ and R2 = 4.2kΩ.

Answer:

The correct answer is: 3.84

Question 3

Not answered

Mark 0.0 out of 1.0

If a 28.4kΩ resistor has 0.97mA flowing through it, then what is the value of the power dissipated by this resistor in milliwatts?

Answer:

The correct answer is: 26.72

Question 4

Not answered

Mark 0.0 out of 1.0

If a 7.8kΩ resistor has 12.3 volts across it, then what is the value of the power dissipated by this resistor in milliwatts?

Answer:

The correct answer is: 19.40

Question 5

Correct

Mark 1.0 out of 1.0

Which of the following circuit elements looks like an open circuit at very high frequencies?

Select one:

- a. All of these
- b. None of these
- c. Capacitors
- d. Inductors ✓
- e. Resistors

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If at t=0 the voltage applied across an ideal resistor is suddenly increased, then the current flowing through the resistor will :

Select one:

- a. Increase more slowly than the voltage
- b. Increase more quickly than the voltage
- c. None of these
- d. Increase at the same rate as the voltage ✓
- e. Stay constant and not increase

The correct answer is: Increase at the same rate as the voltage

Correct

Marks for this submission: 1.0/1.0.

Started on	Saturday, 9 September 2017, 1:05 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:36 PM
Time taken	30 mins 36 secs
Grade	**8.5** out of 10.0 (**85**%)

Question 1

Correct

Mark 1.0 out of 1.0

If a 41.9nH inductor is connected in parallel with a 13.4nH inductor, then what is the total inductance of this parallel combination in nano Henries ?

Answer: 10.15

The correct answer is: 10.15

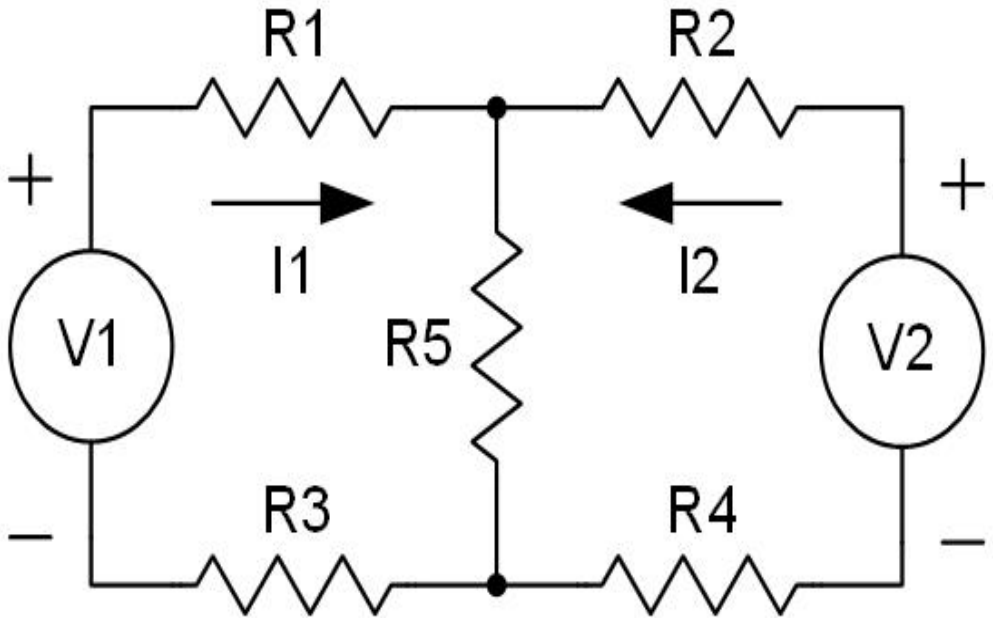
Correct

Marks for this submission: 1.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage across R5 in volts? Use: V1 = 17.0V, V2 = 19.1V, R1 = 15.6kΩ, R2 = 14.4kΩ, R3 = 5.4kΩ, R4 = 19.4kΩ and R5 = 2.8kΩ.

Answer:

The correct answer is: 3.165

Question 3

Correct

Mark 1.0 out of 1.0

If a 4.9V voltage source is applied across a 17.6kΩ resistor connected in series with a 30.7kΩ resistor, then what is the voltage across the 30.7kΩ resistor in volts?

Answer: 3.11

The correct answer is: 3.11

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a 33.5kΩ resistor is connected in series with a 40.7kΩ resistor, then what is the total resistance of this series combination in kilohms?

Answer: 74.2

The correct answer is: 74.20

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the integral of the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. None of these
- b. Inductors
- c. All of these
- d. Resistors
- e. Capacitors

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Started on	Saturday, 9 September 2017, 2:25 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:28 PM
Time taken	2 mins 15 secs
Grade	**0.5** out of 10.0 (**5**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 2.1mA current source, a 44.2kΩ resistor, a 15.8kΩ resistor and a 7.3kΩ resistor are all connected in parallel, then what is the current through the 7.3kΩ resistor in milliamps?

Answer:

The correct answer is: 1.29

Question 2

Not answered

Mark 0.0 out of 1.0

If a 27.7pF capacitor is connected in parallel with a 39.8pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

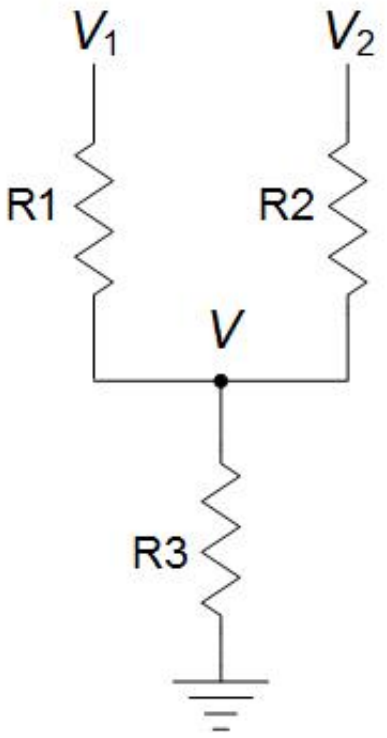
Answer:

The correct answer is: 67.50

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 12.6V, V2 = 6.8V, R1 = 15.9kΩ, R2 = 17.5kΩ, and R3 = 6.6kΩ.

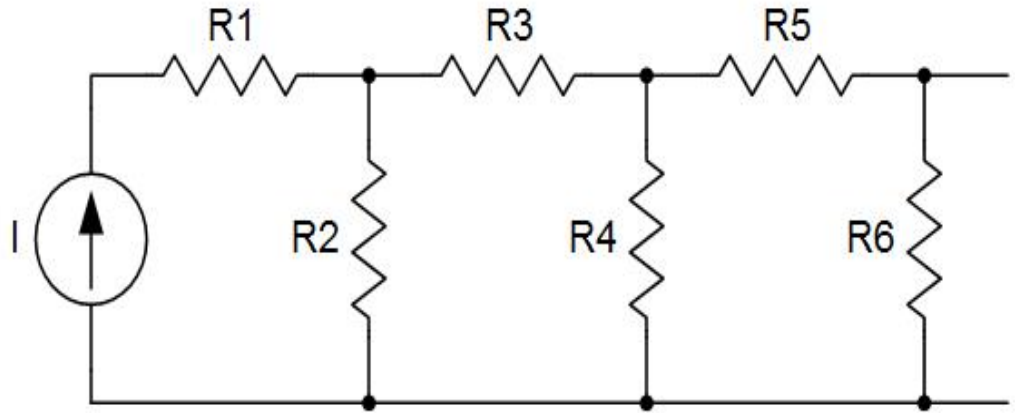
Answer:

The correct answer is: 4.35

Question 4

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 19.9mA, R1 = 6.7kΩ, R2 = 38.2kΩ, R3 = 11.7kΩ, R4 = 50.0kΩ, R5 = 17.5kΩ and R6 = 16.7kΩ.

Answer:

The correct answer is: 8.96

Question 5

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements is the voltage across the element proportional to the integral of the current flowing through it? (Assume that the initial voltage = 0 before the current starts to flow.)

Select one:

- a. Resistors
- b. Inductors
- c. None of these
- d. All of these
- e. Capacitors ✓

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 6

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance increase as frequency increases?

Select one:

- a. None of these
- b. Capacitors
- c. Inductors
- d. All of these
- e. Resistors

The correct answer is: Inductors

Question 7

Not answered

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal inductor is increased, then the voltage across the inductor will :

Select one:

- a. Decrease
- b. None of these
- c. No way to determine
- d. Increase
- e. Stay constant

The correct answer is: Increase

Question 8

Not answered

Mark 0.0 out of 1.0

Capacitors in parallel can be combined to find the total equivalent capacitance by adding the capacitances together.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

Mesh analysis is easier to perform than Nodal analysis for circuits that have fewer loops than nodes.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

The power dissipated by a resistor is equal to the square of the current flowing through the resistor divided by the resistance.

Select one:

- True
- False

The correct answer is 'False'.

Started on	Saturday, 9 September 2017, 2:28 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:33 PM
Time taken	4 mins 56 secs
Grade	**5.0** out of 10.0 (**50**%)

Question 1

Correct

Mark 1.0 out of 1.0

If a 7.6kΩ resistor has 14.6 volts across it, then what is the value of the current flowing through this resistor in milliamps?

Answer: 1.92

The correct answer is: 1.92

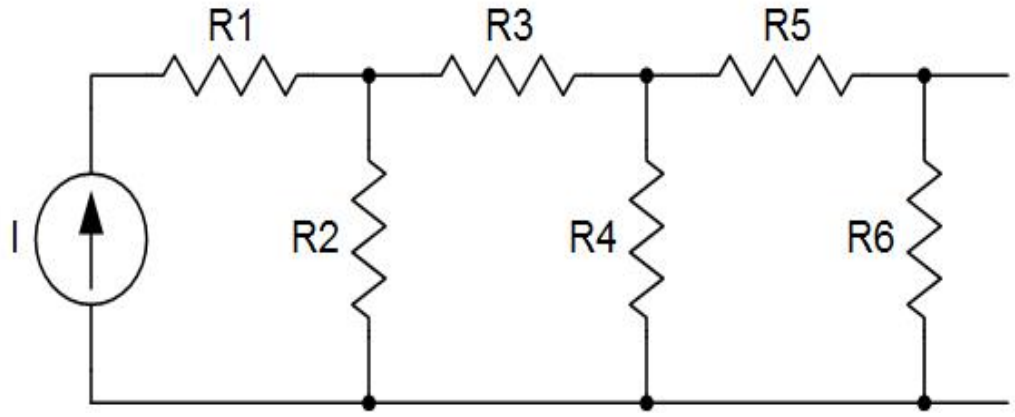
Correct

Marks for this submission: 1.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Norton's Theorem, find the value of the Norton equivalent resistance for the circuit shown in kilohms. Use: I = 10.5mA, R1 = 9.5kΩ, R2 = 28.3kΩ, R3 = 3.7kΩ, R4 = 18.4kΩ, R5 = 3.0kΩ and R6 = 18.6kΩ.

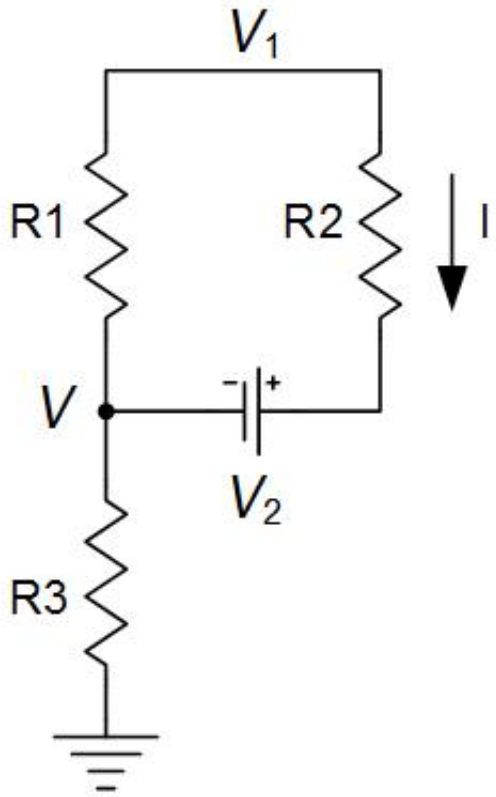
Answer:

The correct answer is: 8.21

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 10.9V, V2 = 0.5V, R1 = 13.6kΩ, R2 = 7.1kΩ, and R3 = 18.6kΩ.

Answer:

The correct answer is: 0.274

Question 4

Not answered

Mark 0.0 out of 1.0

If a 10.4mA current source, a 45.7kΩ resistor, a 3.2kΩ resistor and a 10.1kΩ resistor are all connected in parallel, then what is the current through the 3.2kΩ resistor in milliamps?

Answer:

The correct answer is: 7.50

Question 5

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance decrease as frequency increases?

Select one:

- a. All of these
- b. Inductors
- c. None of these
- d. Capacitors ✓
- e. Resistors

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If a circuit has 3 nodes and 2 loops in it, then :

Select one:

- a. Mesh analysis will require solving more equations than Nodal analysis
- b. Both Nodal and Mesh analysis will require solving the same number of equations
- c. It is impossible to determine which method will require solving more equations
- d. Nodal analysis will require solving more equations than Mesh analysis ✓
- e. None of these

The correct answer is: Nodal analysis will require solving more equations than Mesh analysis

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

If a circuit has 3 nodes and 3 loops in it, then :

Select one:

- a. Mesh analysis will require solving more equations than Nodal analysis
- b. It is impossible to determine which method will require solving more equations
- c. Nodal analysis will require solving more equations than Mesh analysis
- d. Both Nodal and Mesh analysis will require solving the same number of equations ✓
- e. None of these

The correct answer is: Both Nodal and Mesh analysis will require solving the same number of equations

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

A capacitor looks like a open circuit at very high frequencies.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in parallel, the one with the higher resistance will have a smaller current flowing through it than the other resistor.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 0.0 out of 1.0

Mesh analysis is easier to perform than Nodal analysis for circuits that have fewer nodes than loops.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 6

Correct

Mark 1.0 out of 1.0

As the voltage across an ideal current source varies :

Select one:

- a. All of these
- b. The current through the source increases as the voltage across it increases
- c. The current through the source decreases as the voltage across it increases
- d. The current through the source decreases as the voltage across it decreases
- e. None of these ✓

The correct answer is: None of these

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

Which of the following circuit elements looks like a short circuit at very high frequencies?

Select one:

- a. None of these
- b. Resistors
- c. Inductors
- d. All of these
- e. Capacitors ✓

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

For a capacitor, the phase of the voltage lags the current by 90 degrees.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

The Norton's equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all dependent voltage and current sources are set equal to zero.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the open circuit output voltage of the circuit.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 0.5 out of 1.0

If at t=0 the voltage applied across an ideal current source is suddenly increased, then the current flowing through the source will :

Select one:

- a. Increase at the same rate as the voltage
- b. None of these
- c. Increase more quickly than the voltage
- d. Increase more slowly than the voltage
- e. Stay constant and not increase ✓

The correct answer is: Stay constant and not increase

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 0.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the output voltage of the circuit while the output is open circuited.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is equal to the Norton's equivalent current divided by the Norton's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

The power dissipated by an ideal capacitor is equal to the square of the voltage across the capacitor divided by the capacitance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Not answered

Mark 0.0 out of 1.0

Inductors in parallel can be combined to find the total equivalent inductance by :

Select one:

- a. Taking the reciprocal of the sum of the reciprocals of each inductance
- b. Adding the inductances together
- c. Multiplying the inductances together
- d. None of the these
- e. Adding the reciprocal of each inductance together

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each inductance

Question 8

Not answered

Mark 0.0 out of 1.0

The power dissipated by an ideal capacitor is always equal to zero.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the output voltage of the circuit while the output is short circuited.

Select one:

- True
- False

The correct answer is 'False'.

Question 10

Not answered

Mark 0.0 out of 1.0

An inductor looks like a open circuit at very low frequencies.

Select one:

- True
- False

The correct answer is 'False'.

Question 5

Not answered

Mark 0.0 out of 1.0

If a circuit has 3 nodes and 2 loops in it, then :

Select one:

- a. Nodal analysis will require solving more equations than Mesh analysis
- b. Both Nodal and Mesh analysis will require solving the same number of equations
- c. Mesh analysis will require solving more equations than Nodal analysis
- d. None of these
- e. It is impossible to determine which method will require solving more equations

The correct answer is: Nodal analysis will require solving more equations than Mesh analysis

Question 6

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in series, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True
- False

The correct answer is 'True'.

Question 7

Not answered

Mark 0.0 out of 1.0

The current through an ideal current source does not change as the voltage across it changes.

Select one:

- True
- False

The correct answer is 'True'.

Question 8

Not answered

Mark 0.0 out of 1.0

The Thevenin's equivalent resistance for a circuit is always equal to the Norton's equivalent resistance for the same circuit.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 12.8V voltage source is applied across a 47.5kΩ resistor connected in series with a 6.9kΩ resistor, then what is the voltage across the 47.5kΩ resistor in volts?

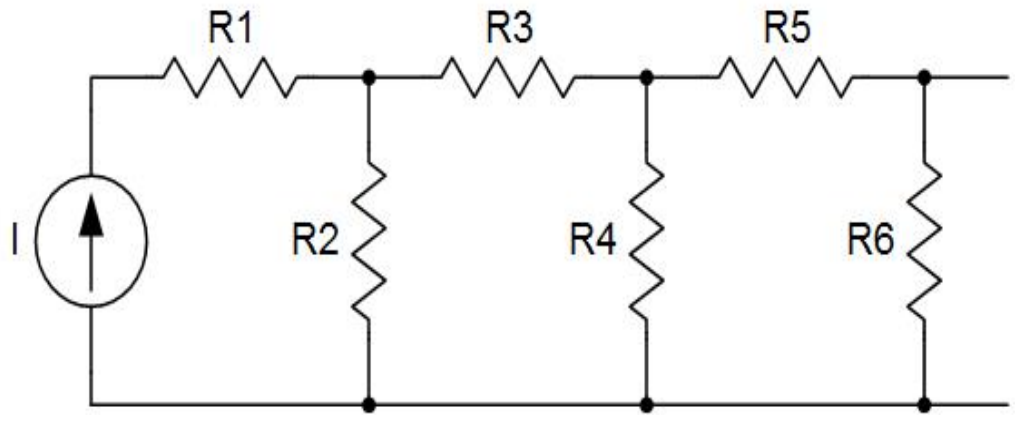
Answer:

The correct answer is: 11.18

Question 10

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 15.2mA, R1 = 7.1kΩ, R2 = 47.8kΩ, R3 = 7.1kΩ, R4 = 22.6kΩ, R5 = 7.4kΩ and R6 = 12.3kΩ.

Answer:

The correct answer is: 9.05

Started on	Friday, 8 September 2017, 7:06 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:09 PM
Time taken	2 mins 54 secs
Grade	**2.0** out of 10.0 (**20**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 4.5V voltage source is applied across a 6.3kΩ resistor connected in series with a 33.4kΩ resistor and a 34.3kΩ resistor, then what is the voltage across the 34.3kΩ resistor in volts?

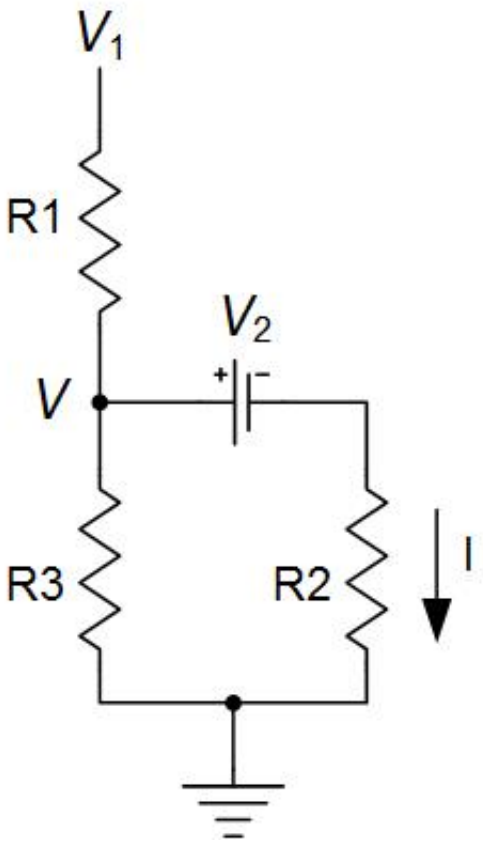
Answer:

The correct answer is: 2.09

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 8.2V, V2 = 0.5V, R1 = 18.7kΩ, R2 = 3.2kΩ, and R3 = 2.4kΩ.

Answer:

The correct answer is: 0.081

Question 3

Not answered

Mark 0.0 out of 1.0

Inductors in series can be combined to find the total equivalent inductance by :

Select one:

- a. None of the these
- b. Multiplying the inductances together
- c. Taking the reciprocal of the sum of the reciprocals of each inductance
- d. Adding the inductances together
- e. Adding the reciprocal of each inductance together

The correct answer is: Adding the inductances together

Question 4

Not answered

Mark 0.0 out of 1.0

If at t=0 the voltage applied across an ideal resistor is suddenly increased, then the current flowing through the resistor will :

Select one:

- a. Increase at the same rate as the voltage
- b. None of these
- c. Stay constant and not increase
- d. Increase more slowly than the voltage
- e. Increase more quickly than the voltage

The correct answer is: Increase at the same rate as the voltage

Question 5

Not answered

Mark 0.0 out of 1.0

Resistors in series can be combined to find the total equivalent resistance by :

Select one:

- a. Taking the reciprocal of the sum of the reciprocals of each resistance
- b. None of the these
- c. Adding the reciprocal of each resistance together
- d. Adding the resistances together
- e. Multiplying the resistances together

The correct answer is: Adding the resistances together

Question 6

Correct

Mark 1.0 out of 1.0

Capacitors in series can be combined to find the total equivalent capacitance by adding the capacitances together.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent voltage for a circuit is found by measuring the short circuit output voltage of the circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

An inductor looks like a open circuit at very low frequencies.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

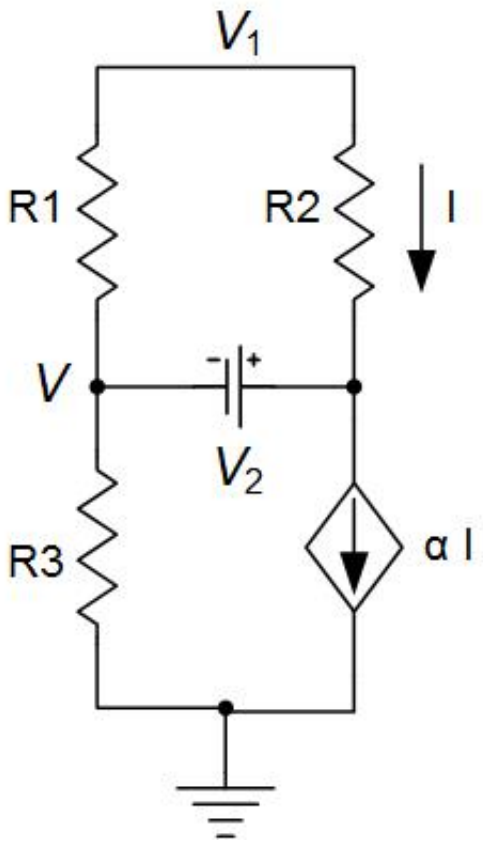
Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Started on	Saturday, 9 September 2017, 1:59 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:02 PM
Time taken	3 mins
Grade	**1.0** out of 10.0 (**10**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 13.7V, V2 = 0.6V, R1 = 16.8kΩ, R2 = 9.5kΩ, R3 = 3.2kΩ and α = 0.85.

Answer:

The correct answer is: 2.64

Question 2

Correct

Mark 1.0 out of 1.0

If a 20.4kΩ resistor is connected in parallel with a 13.7kΩ resistor, then what is the total resistance of this parallel combination in kilohms?

Answer: 8.2 ✓

The correct answer is: 8.20

Correct

Marks for this submission: 1.0/1.0.

Question 3

Incorrect

Mark 0.0 out of 1.0

If a 3.3mA current source is applied to a 9.1kΩ resistor connected in parallel with a 45.4kΩ resistor, then what is the current through the 45.4kΩ resistor in milliamps?

Answer: 2.75 ✗

The correct answer is: 0.55

Incorrect

Marks for this submission: 0.0/1.0.

Question 4

Not answered

Mark 0.0 out of 1.0

If a 10.4V voltage source is applied across a 38.2kΩ resistor connected in series with a 29.0kΩ resistor, then what is the voltage across the 29.0kΩ resistor in volts?

Answer: ✗

The correct answer is: 4.49

Question 5

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and the same current flows through both R1 and R2, then :

Select one:

- a. No way to determine
- b. R1 has a lower resistance than R2
- c. None of these
- d. R1 has the same resistance as R2
- e. R1 has a higher resistance than R2

The correct answer is: R1 has the same resistance as R2

Question 6

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in series, R1 and R2, and the same voltage appears across both R1 and R2, then :

Select one:

- a. R1 has the same resistance as R2
- b. R1 has a higher resistance than R2
- c. R1 has a lower resistance than R2
- d. None of these
- e. No way to determine

The correct answer is: R1 has the same resistance as R2

Question 7

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks like an open circuit at very low frequencies?

Select one:

- a. Inductors
- b. All of these
- c. None of these
- d. Resistors
- e. Capacitors

The correct answer is: Capacitors

Question 8

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, both resistors will have the same voltage across them.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

In the phrase “ELI the ICE man” the letter E stands for “Electromotive Force”, which is another name for voltage.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

The Norton’s equivalent current for a circuit is equal to the Thevenin’s equivalent voltage divided by the Thevenin’s equivalent resistance for the same circuit.

Select one:

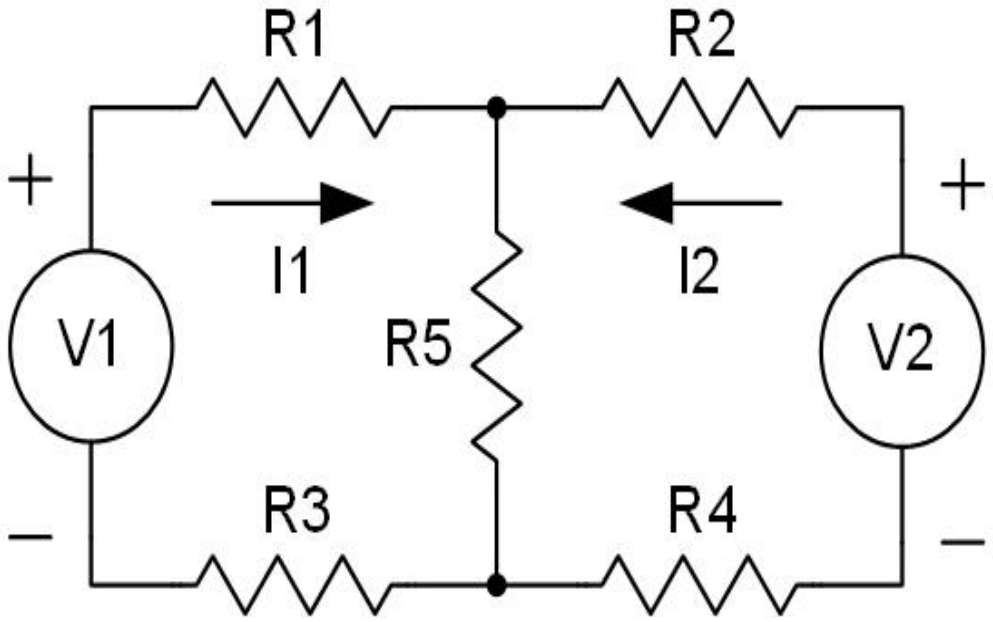
- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 17.8V, V2 = 13.7V, R1 = 7.6kΩ, R2 = 7.9kΩ, R3 = 13.7kΩ, R4 = 4.0kΩ and R5 = 7.2kΩ.

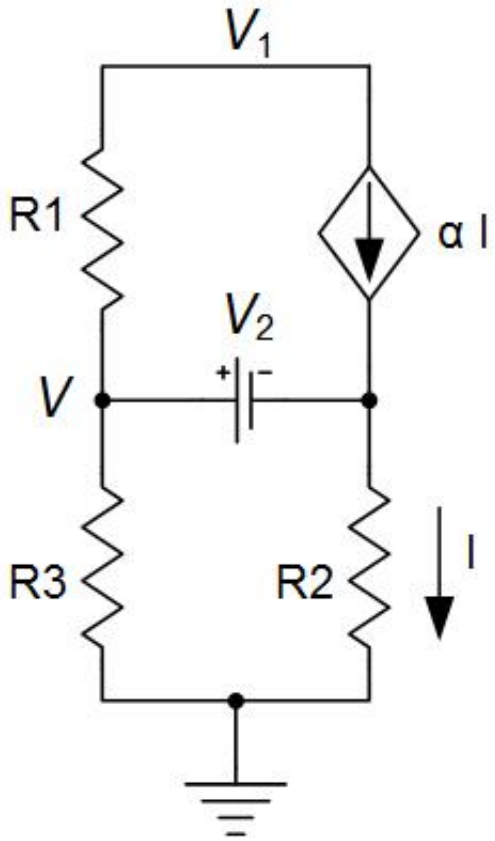
Answer:

The correct answer is: 0.490

Question 10

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 15.2V, V2 = 1.1V, R1 = 12.9kΩ, R2 = 9.1kΩ, R3 = 10.2kΩ and α = 0.94.

Answer:

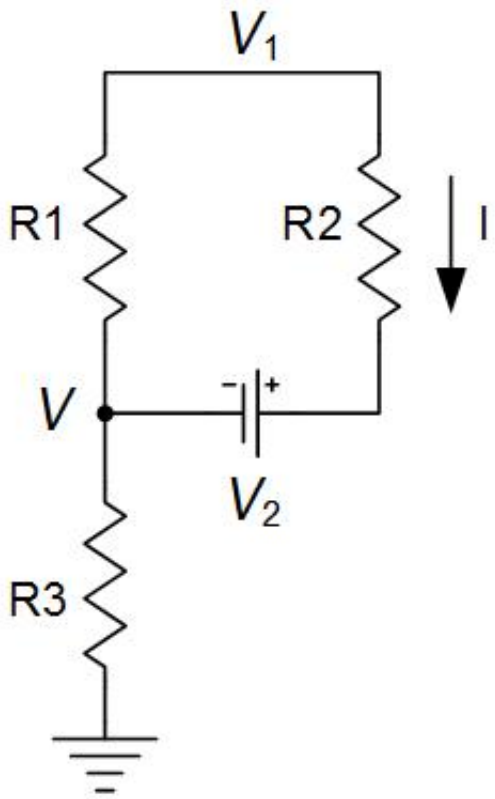
The correct answer is: 6.51

Started on	Friday, 8 September 2017, 7:10 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:12 PM
Time taken	1 min 58 secs
Grade	**3.0** out of 10.0 (**30**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 6.4V, V2 = 0.5V, R1 = 15.2kΩ, R2 = 1.9kΩ, and R3 = 14.4kΩ.

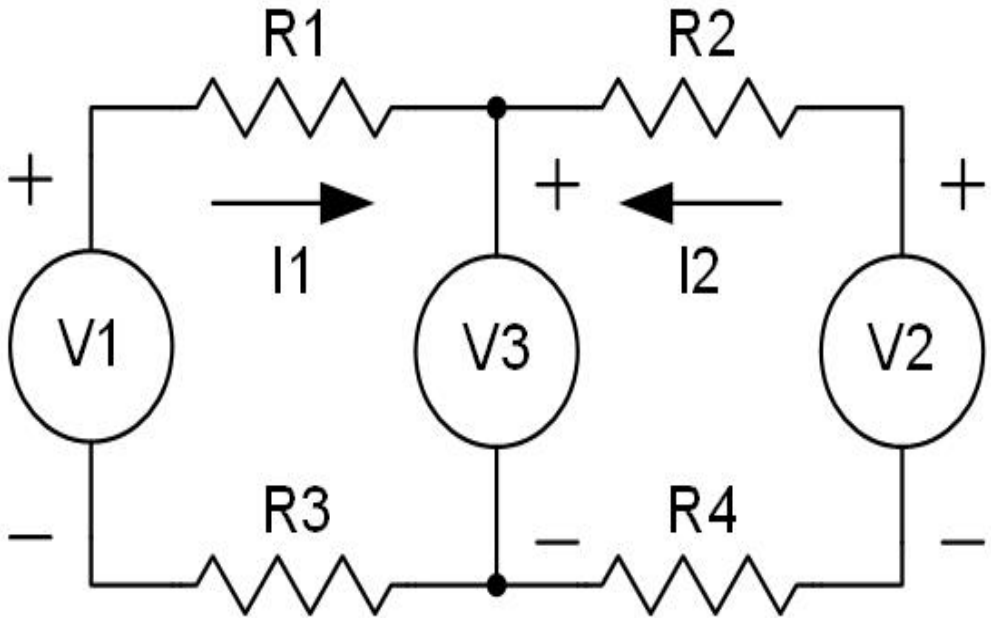
Answer:

The correct answer is: 0.300

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 15.6V, V2 = 4.8V, V3 = 4.8V, R1 = 6.8kΩ, R2 = 15.0kΩ, R3 = 1.1kΩ and R4 = 13.1kΩ.

Answer:

The correct answer is: 1.367

Question 3

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and less of the voltage appears across R1 than across R2, then :

Select one:

- a. No way to determine
- b. R1 has a higher resistance than R2
- c. R1 has the same resistance as R2
- d. R1 has a lower resistance than R2
- e. None of these

The correct answer is: R1 has a lower resistance than R2

Question 4

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and the same voltage appears across both R1 and R2, then :

Select one:

- a. R1 has a lower resistance than R2
- b. R1 has a higher resistance than R2
- c. No way to determine
- d. R1 has the same resistance as R2
- e. None of these

The correct answer is: R1 has the same resistance as R2

Question 5

Correct

Mark 1.0 out of 1.0

Resistors in parallel can be combined to find the total equivalent resistance by :

Select one:

- a. Adding the reciprocal of each resistance together
- b. Adding the resistances together
- c. Taking the reciprocal of the sum of the reciprocals of each resistance ✓
- d. Multiplying the resistances together
- e. None of the these

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each resistance

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

Nodal analysis is easier to perform than Mesh analysis for circuits that have fewer nodes than loops.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Norton's equivalent current for a circuit is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0

If a 18.0V voltage source is applied across a 38.2kΩ resistor connected in series with a 14.4kΩ resistor and a 13.9kΩ resistor, then what is the voltage across the 14.4kΩ resistor in volts?

Answer:

The correct answer is: 3.90

Question 10

Not answered

Mark 0.0 out of 1.0

If a 10.9mA current source, a 18.6kΩ resistor, a 30.2kΩ resistor and a 28.2kΩ resistor are all connected in parallel, then what is the current through the 30.2kΩ resistor in milliamps?

Answer:

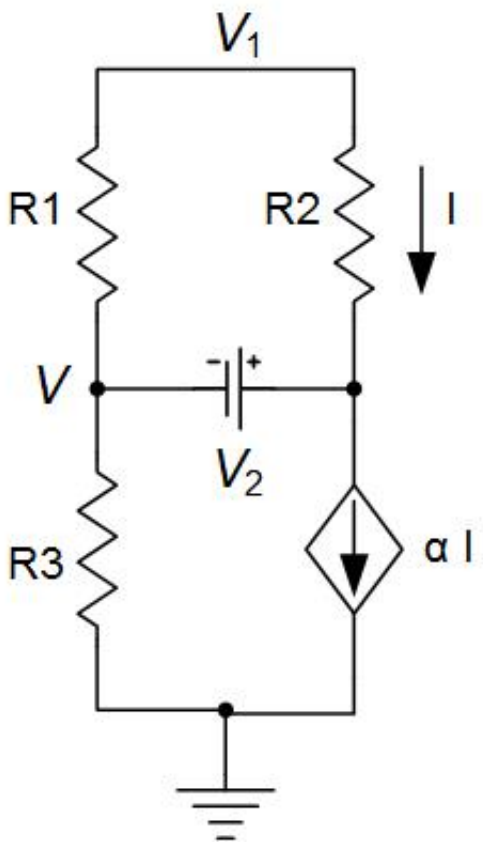
The correct answer is: 2.95

Started on	Friday, 8 September 2017, 7:01 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:05 PM
Time taken	4 mins 35 secs
Grade	**3.5** out of 10.0 (**35**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 10.3V, V2 = 1.5V, R1 = 13.7kΩ, R2 = 8.6kΩ, R3 = 19.0kΩ and α = 0.86.

Answer:

The correct answer is: 0.290

Question 2

Not answered

Mark 0.0 out of 1.0

What is the magnitude in ohms of the complex impedance, Z, for a 1215Ω resistor in series with a 7.8pF capacitor at 77.2MHz?

Answer:

The correct answer is: 1243.42

Question 3

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. Inductors
- b. Capacitors
- c. Resistors
- d. All of these
- e. None of these

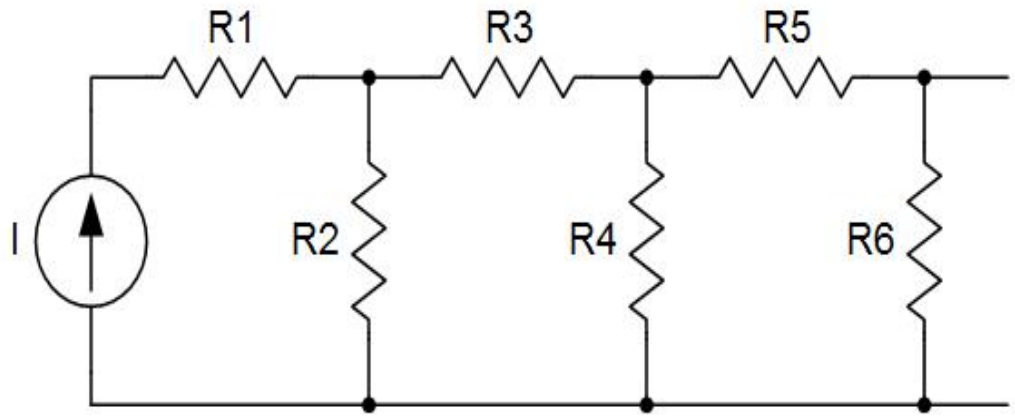
The correct answer is: Resistors

Started on	Friday, 8 September 2017, 11:36 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:04 PM
Time taken	13 hours 28 mins
Grade	**7.5** out of 10.0 (**75**%)

Question 1

Correct

Mark 1.0 out of 1.0



Through repeated applications of Norton's Theorem, find the value of the Norton equivalent resistance for the circuit shown in kilohms. Use: I = 19.8mA, R1 = 18.9kΩ, R2 = 42.5kΩ, R3 = 17.0kΩ, R4 = 15.8kΩ, R5 = 18.3kΩ and R6 = 30.3kΩ.

Answer: 15.27

The correct answer is: 15.27

Correct

Marks for this submission: 1.0/1.0.

Question 2

Correct

Mark 1.0 out of 1.0

If a 4.3V voltage source is applied across a 21.1kΩ resistor connected in series with a 11.5kΩ resistor and a 3.6kΩ resistor, then what is the voltage across the 21.1kΩ resistor in volts?

Answer: 2.51

The correct answer is: 2.51

Correct

Marks for this submission: 1.0/1.0.

Question 3

Correct

Mark 1.0 out of 1.0

If a 15.7pF capacitor is connected in series with a 5.6pF capacitor, then what is the total capacitance of this series combination in pico Farads?

Answer: 4.13

The correct answer is: 4.13

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a 3.7kΩ resistor is connected in series with a 11.3kΩ resistor and a 15.6kΩ resistor, then what is the total resistance of this series combination in kilohms?

Answer: 30.6

The correct answer is: 30.60

Correct

Marks for this submission: 1.0/1.0.

Started on	Saturday, 9 September 2017, 1:46 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:47 PM
Time taken	37 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a resistor has 15.6 volts across it when 6.98mA flow through it, then what is the value of the power dissipated by this resistor in milliwatts?

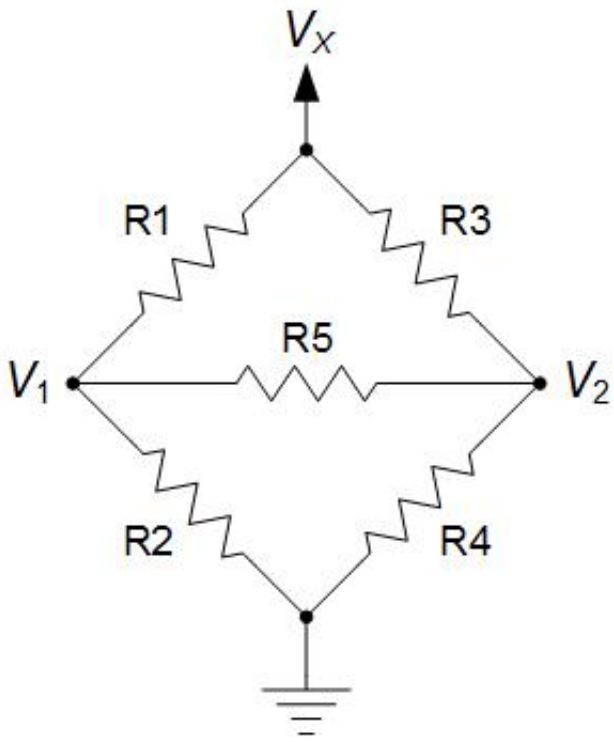
Answer:

The correct answer is: 108.89

Question 2

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what must the value of R4 be in kilohms to set V12, the voltage across R5, equal to zero? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 2.0V, R1 = 6.7kΩ, R2 = 7.4kΩ, R3 = 2.1kΩ, R4 = 8.2kΩ and R5 = 6.9kΩ.

Answer:

The correct answer is: 2.32

Question 3

Not answered

Mark 0.0 out of 1.0

If a 14.7mA current source, a 8.2kΩ resistor, a 44.7kΩ resistor and a 37.3kΩ resistor are all connected in parallel, then what is the current through the 8.2kΩ resistor in milliamps?

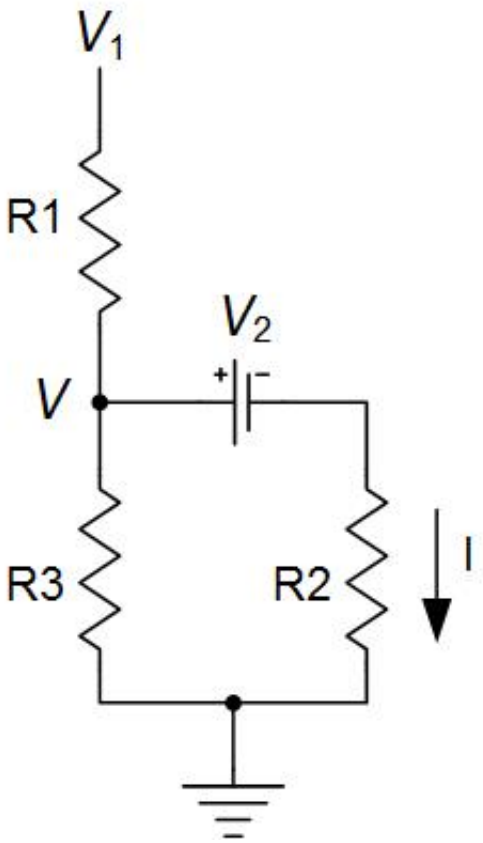
Answer:

The correct answer is: 10.48

Question 4

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 15.5V, V2 = 1.2V, R1 = 16.5kΩ, R2 = 8.5kΩ, and R3 = 11.8kΩ.

Answer:

The correct answer is: 0.342

Question 5

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the derivative of the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. None of these
- b. Resistors
- c. All of these
- d. Capacitors
- e. Inductors

The correct answer is: Capacitors

Question 6

Not answered

Mark 0.0 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal inductor is decreased, then the current flowing through the inductor will :

Select one:

- a. Increase
- b. Stay constant
- c. No way to determine
- d. None of these
- e. Decrease

The correct answer is: Increase

Question 7

Not answered

Mark 0.0 out of 1.0

When solving a circuit to find all the voltages and currents :

Select one:

- a. The most accurate method to use is a Thevenin's or Norton's equivalent
- b. The most accurate method to use is Mesh analysis
- c. The most accurate method to use is a parallel or series combination
- d. The most accurate method to use is Nodal analysis
- e. All analysis methods will give the same results for the same circuit

The correct answer is: All analysis methods will give the same results for the same circuit

Question 8

Not answered

Mark 0.0 out of 1.0

For a capacitor, the phase of the current leads the voltage by 90 degrees.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

The Norton's equivalent current for a circuit is found by measuring the output current of the circuit while the output is open circuited.

Select one:

- True
- False

The correct answer is 'False'.

Question 10

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent voltage for a circuit is found by measuring the short circuit output voltage of the circuit.

Select one:

- True
- False

The correct answer is 'False'.

Started on	Saturday, 9 September 2017, 1:36 PM
State	Finished
Completed on	Saturday, 9 September 2017, 1:46 PM
Time taken	9 mins 28 secs
Grade	**7.0** out of 10.0 (**70**%)

Question 1

Correct

Mark 1.0 out of 1.0

If a 44.4pF capacitor, a 29.5pF capacitor and a 38.3pF capacitor are all connected in series, then what is the total capacitance of this series combination in pico Farads?

Answer: 12.12

The correct answer is: 12.12

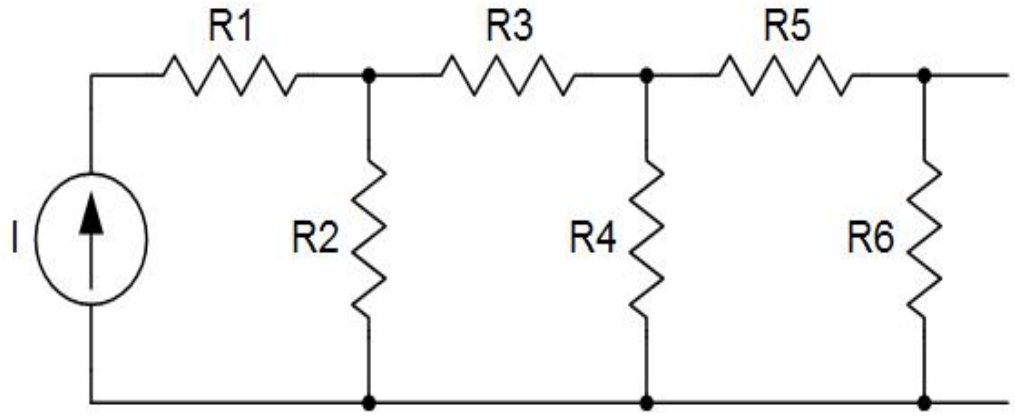
Correct

Marks for this submission: 1.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 16.3mA, R1 = 11.9kΩ, R2 = 44.4kΩ, R3 = 2.3kΩ, R4 = 32.9kΩ, R5 = 8.8kΩ and R6 = 17.9kΩ.

Answer:

The correct answer is: 10.64

Question 3

Not answered

Mark 0.0 out of 1.0

If the Norton equivalent for a circuit is a 4.8mA current source in parallel with a 13.3kΩ resistor, then what is the Thevenin equivalent voltage for this circuit in volts?

Answer:

The correct answer is: 63.84

Question 4

Correct

Mark 1.0 out of 1.0

If the Thevenin equivalent for a circuit is a 16.7V voltage source in series with a 7.2kΩ resistor, then what is the Norton equivalent resistance for this circuit in kilohms?

Answer: 7.2

The correct answer is: 7.20

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 0.5 out of 1.0

If a current source is applied to two resistors in series, R1 and R2, and more voltage appears across R1 than across R2, then :

Select one:

- a. R1 has a lower resistance than R2
- b. No way to determine
- c. R1 has the same resistance as R2
- d. None of these
- e. R1 has a higher resistance than R2

The correct answer is: R1 has a higher resistance than R2

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 6

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements does the phase of the current flowing through the element lead the phase of the voltage across it by 90 degrees?

Select one:

- a. Capacitors ✓
- b. All of these
- c. None of these
- d. Resistors
- e. Inductors

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 7

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and the same voltage appears across both R1 and R2, then :

Select one:

- a. No way to determine
- b. R1 has the same resistance as R2 ✓
- c. None of these
- d. R1 has a lower resistance than R2
- e. R1 has a higher resistance than R2

The correct answer is: R1 has the same resistance as R2

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

For an inductor, the phase of the current leads the voltage by 90 degrees.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in parallel, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

The impedance of a resistor is constant as frequency increases.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the phase of the voltage across the element lead the phase of the current flowing through it by 90 degrees?

Select one:

- a. None of these
- b. Resistors
- c. Capacitors
- d. All of these
- e. Inductors ✓

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

As the current through an ideal voltage source varies :

Select one:

- a. The voltage across the source decreases as the current through it decreases
- b. The voltage across the source increases as the current through it decreases
- c. None of these ✓
- d. All of these
- e. The voltage across the source increases as the current through it increases

The correct answer is: None of these

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements does the phase of the current flowing through the element lag the phase of the voltage across it by 90 degrees?

Select one:

- a. None of these
- b. Resistors
- c. Capacitors
- d. Inductors ✓
- e. All of these

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, both resistors will have the same current flowing through them.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Correct

Mark 0.0 out of 1.0

Inductors in series can be combined to find the total equivalent inductance by adding the inductances together.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 10

Correct

Mark 1.0 out of 1.0

A capacitor looks like a open circuit at very low frequencies.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 0.5 out of 1.0

For which of the following circuit elements does the phase of the voltage across the element lead the phase of the current flowing through it by 90 degrees?

Select one:

- a. Resistors
- b. Capacitors
- c. Inductors ✓
- d. None of these
- e. All of these

The correct answer is: Inductors

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 5

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and more current flows through R1 than through R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. No way to determine
- c. R1 has a lower resistance than R2 ✓
- d. None of these
- e. R1 has the same resistance as R2

The correct answer is: R1 has a lower resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in series, both resistors will have the same current flowing through them.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all independent voltage and current sources are set equal to zero.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

The voltage across a capacitor is equal to the value of the charge stored on it divided by the capacitance.

Select one:

- True ✓
- False

The correct answer is 'True'.

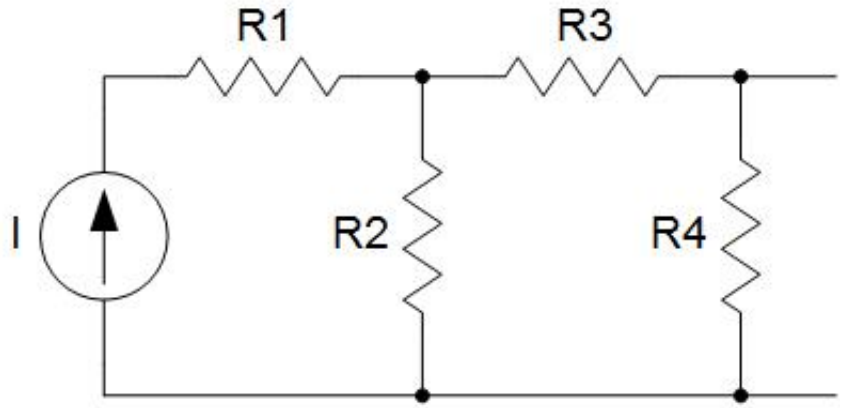
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 18.2mA, R1 = 4.8kΩ, R2 = 16.7kΩ, R3 = 15.9kΩ and R4 = 12.5kΩ.

Answer:

The correct answer is: 9.32

Question 10

Not answered

Mark 0.0 out of 1.0

If a 17.6pF capacitor is connected in parallel with a 44.8pF capacitor and a 11.0pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

Answer:

The correct answer is: 73.40

Started on	Friday, 8 September 2017, 7:34 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:37 PM
Time taken	3 mins 22 secs
Grade	**2.0** out of 10.0 (**20**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If a 10.1kΩ resistor is connected in series with a 8.1kΩ resistor, then what is the total resistance of this series combination in kilohms?

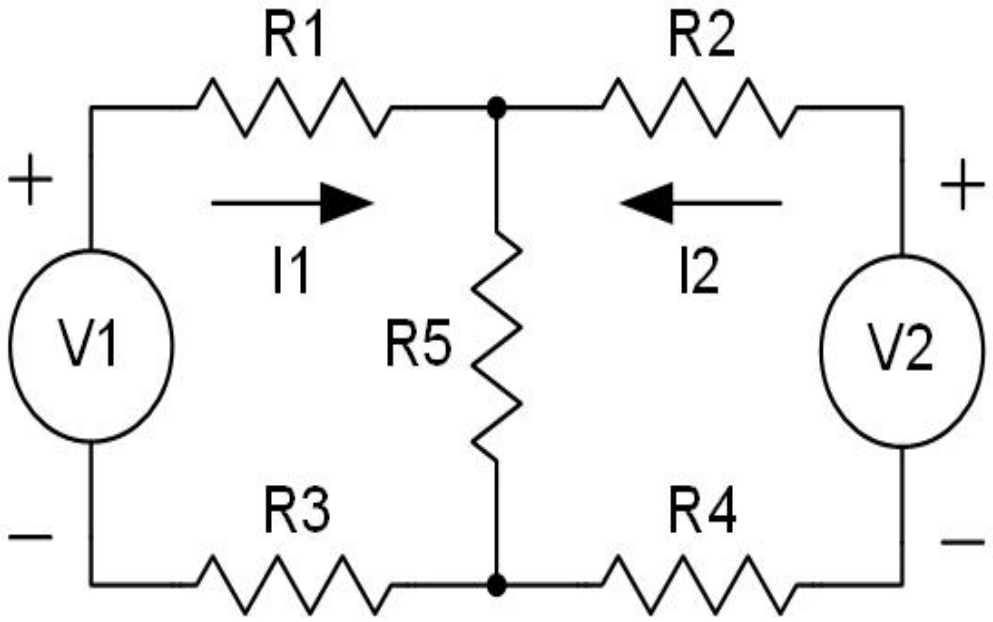
Answer:

The correct answer is: 18.20

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 17.2V, V2 = 9.8V, R1 = 17.6kΩ, R2 = 9.0kΩ, R3 = 6.8kΩ, R4 = 3.7kΩ and R5 = 12.9kΩ.

Answer:

The correct answer is: 0.182

Question 3

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks like an open circuit at very high frequencies?

Select one:

- a. Resistors
- b. Inductors
- c. All of these
- d. None of these
- e. Capacitors

The correct answer is: Inductors

Question 4

Correct

Mark 1.0 out of 1.0

In the phrase “ELI the ICE man” the letter I stands for :

Select one:

- a. Energy
- b. Voltage
- c. None of these
- d. Power
- e. Current ✓

The correct answer is: Current

Correct

Marks for this submission: 1.0/1.0.

Question 5

Not answered

Mark 0.0 out of 1.0

If a current source is applied to two resistors in parallel, R1 and R2, and less current flows through R1 than through R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. R1 has the same resistance as R2
- c. R1 has a lower resistance than R2
- d. No way to determine
- e. None of these

The correct answer is: R1 has a higher resistance than R2

Question 6

Correct

Mark 0.0 out of 1.0

The impedance of a resistor is constant as frequency increases.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 7

Correct

Mark 1.0 out of 1.0

The power dissipated by a resistor is equal to the square of the voltage across the resistor divided by the resistance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 0.0 out of 1.0

The phrase “ELI the ICE man” is a good way to remember that voltage lags current in an inductor, and current lags voltage in a capacitor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

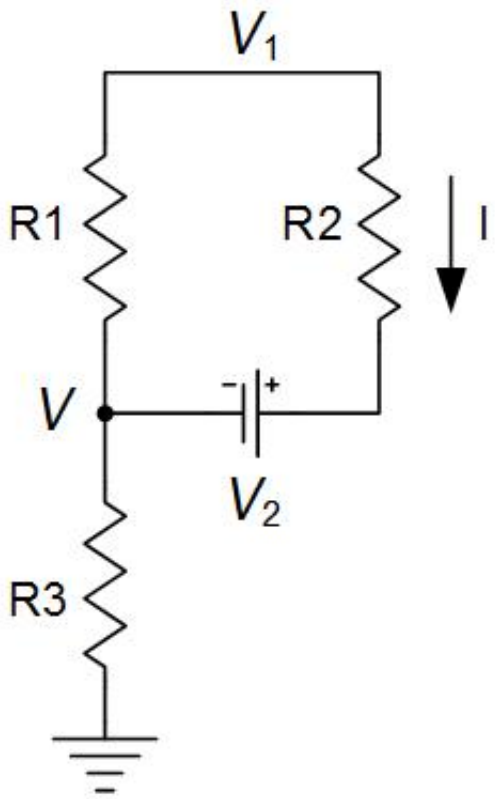
Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Started on	Friday, 8 September 2017, 11:04 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:05 PM
Time taken	36 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 7.6V, V2 = 1.8V, R1 = 9.0kΩ, R2 = 2.1kΩ, and R3 = 15.4kΩ.

Answer:

The correct answer is: 5.529

Question 2

Not answered

Mark 0.0 out of 1.0

If a 46.2nH inductor is connected in series with a 32.7nH inductor, then what is the total inductance of this series combination in nano Henries ?

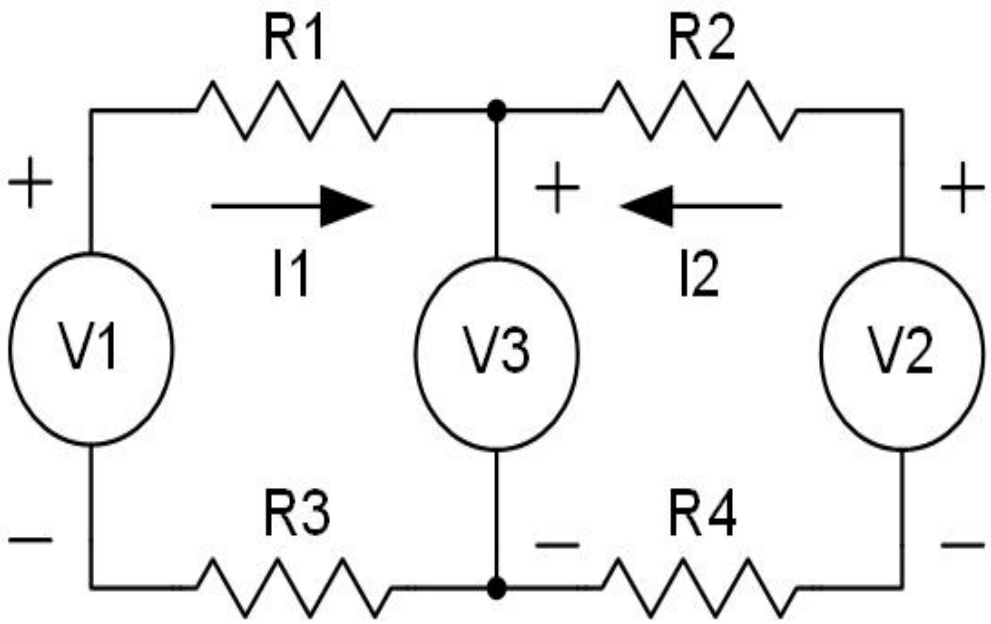
Answer:

The correct answer is: 78.90

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 10.9V, V2 = 16.9V, V3 = 12.0V, R1 = 3.7kΩ, R2 = 1.7kΩ, R3 = 8.3kΩ and R4 = 8.2kΩ.

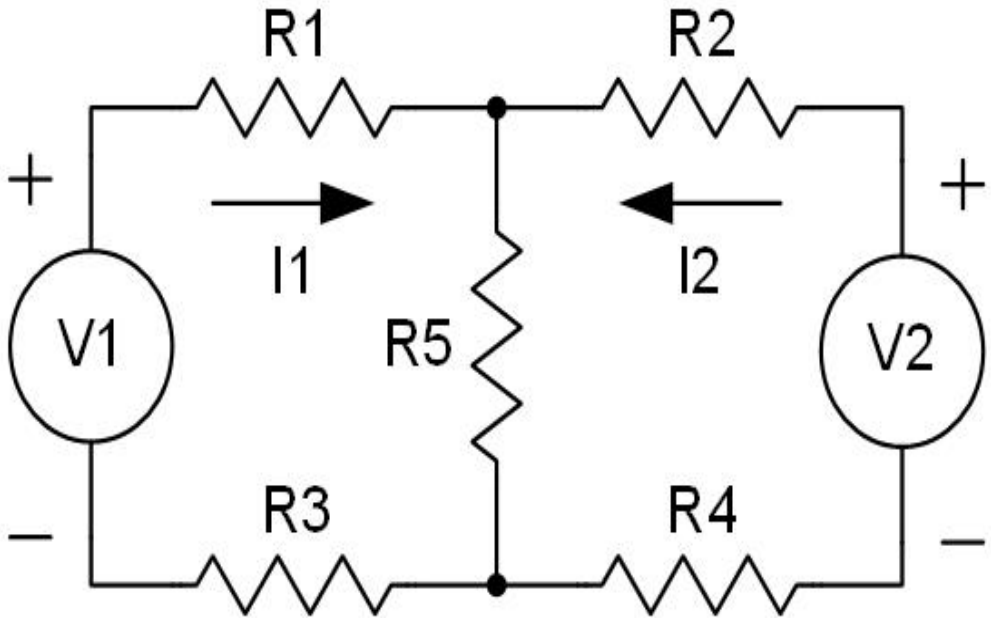
Answer:

The correct answer is: 0.495

Question 4

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 14.0V, V2 = 4.1V, R1 = 12.0kΩ, R2 = 18.2kΩ, R3 = 15.9kΩ, R4 = 8.3kΩ and R5 = 7.5kΩ.

Answer:

The correct answer is: 0.388

Question 5

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks the same at all frequencies?

Select one:

- a. None of these
- b. Resistors
- c. All of these
- d. Inductors
- e. Capacitors

The correct answer is: Resistors

Question 6

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements is the current flowing through the element proportional to the voltage across it? (Assume that the initial current = 0 before the voltage is applied.)

Select one:

- a. Capacitors
- b. None of these
- c. All of these
- d. Inductors
- e. Resistors

The correct answer is: Resistors

Question 7

Not answered

Mark 0.0 out of 1.0

Which of the following is true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. The Thevenin's equivalent voltage is the output voltage with a short circuit at the output
- b. The Thevenin's equivalent voltage is equal to the Norton's equivalent current divided by the Norton's equivalent resistance
- c. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance
- d. All of these
- e. The Norton's equivalent current is the output current with an open circuit at the output

The correct answer is: The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance

Question 8

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, the one with the higher resistance will have a larger current flowing through it than the other resistor.

Select one:

- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0

The power dissipated by an ideal inductor is always equal to zero.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

For an inductor, the phase of the current lags the voltage by 90 degrees.

Select one:

- True
- False

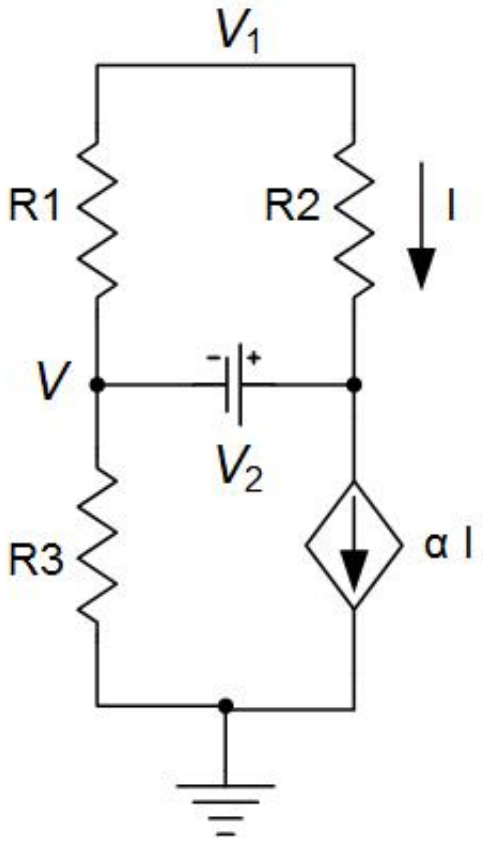
The correct answer is 'True'.

Started on	Friday, 8 September 2017, 10:51 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:03 PM
Time taken	12 mins 10 secs
Grade	**8.0** out of 10.0 (**80**%)

Question 1

Incorrect

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 12.7V, V2 = 1.9V, R1 = 15.5kΩ, R2 = 5.1kΩ, R3 = 13.6kΩ and α = 0.89.

Answer: 7 ✗

The correct answer is: 6.59

Incorrect

Marks for this submission: 0.0/1.0.

Question 2

Correct

Mark 1.0 out of 1.0

If a 18.0mA current source is applied to a 37.8kΩ resistor connected in parallel with a 46.9kΩ resistor, then what is the current through the 37.8kΩ resistor in milliamps?

Answer: 9.97 ✓

The correct answer is: 9.97

Correct

Marks for this submission: 1.0/1.0.

Question 3

Correct

Mark 1.0 out of 1.0

If a 23.6pF capacitor is connected in parallel with a 3.0pF capacitor and a 45.8pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

Answer: 72.4

The correct answer is: 72.40

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a 7.4kΩ resistor has 9.4 volts across it, then what is the value of the current flowing through this resistor in milliamps?

Answer: 1.27

The correct answer is: 1.27

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

The power dissipated by an inductor is given by :

Select one:

- a. I*L
- b. I*I*L
- c. V*V/L
- d. V/L
- e. None of the these

The correct answer is: None of the these

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance increase as frequency decreases?

Select one:

- a. None of these
- b. Resistors
- c. Capacitors ✓
- d. Inductors
- e. All of these

The correct answer is: Capacitors

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal capacitor is decreased, then the current flowing through the capacitor will :

Select one:

- a. No way to determine
- b. Decrease ✓
- c. Stay constant
- d. None of these
- e. Increase

The correct answer is: Decrease

Correct

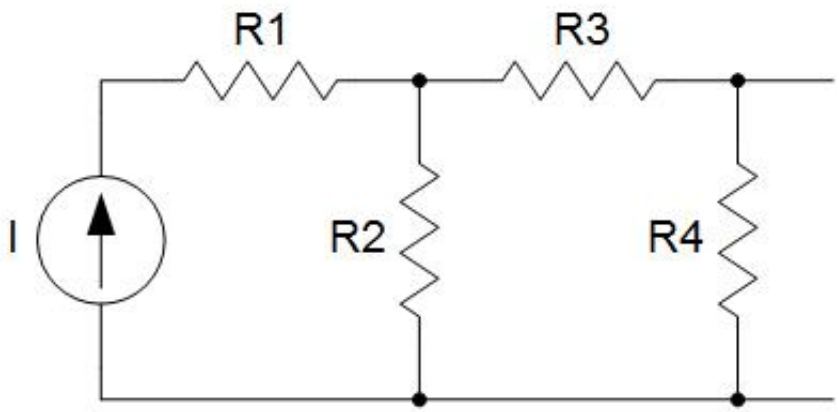
Marks for this submission: 1.0/1.0.

Started on	Friday, 8 September 2017, 11:16 PM
State	Finished
Completed on	Friday, 8 September 2017, 11:25 PM
Time taken	8 mins 58 secs
Grade	**7.0** out of 10.0 (**70**%)

Question 1

Incorrect

Mark 0.0 out of 1.0



Through repeated applications of Norton's Theorem, find the value of the Norton equivalent resistance for the circuit shown in kilohms. Use: I = 11.6mA, R1 = 7.7kΩ, R2 = 13.6kΩ, R3 = 7.4kΩ and R4 = 48.9kΩ.

Answer: 48.9 ✗

The correct answer is: 14.69

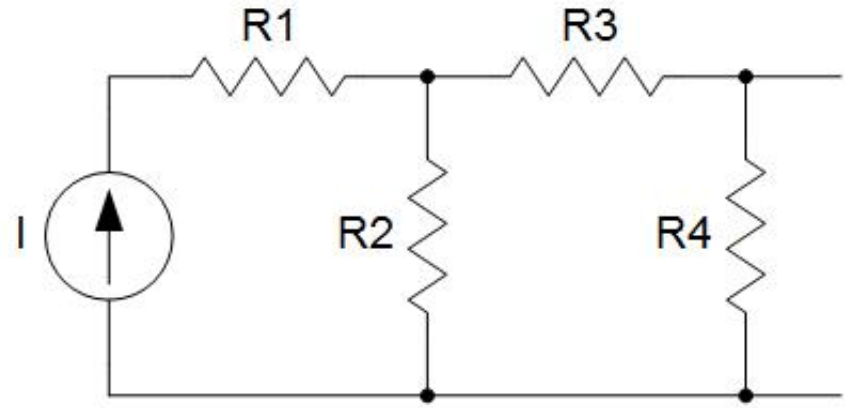
Incorrect

Marks for this submission: 0.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Nortons's Theorem, find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 15.3mA, R1 = 18.6kΩ, R2 = 26.9kΩ, R3 = 15.1kΩ and R4 = 38.8kΩ.

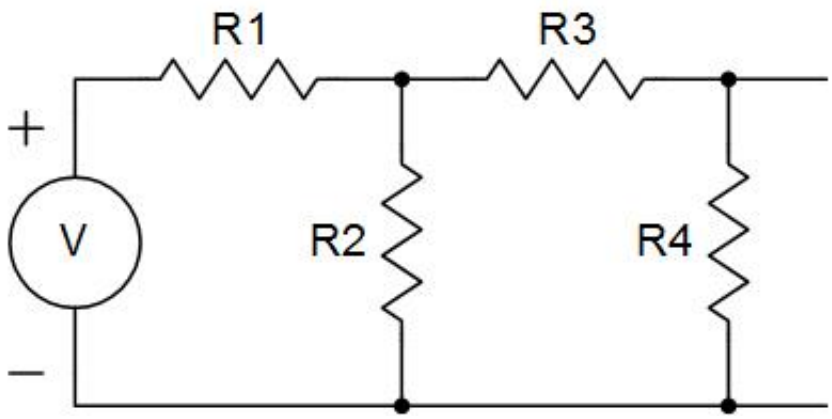
Answer:

The correct answer is: 9.80

Question 3

Not answered

Mark 0.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the open circuit output voltage for the circuit shown in volts. Use: V = 16.0V, R1 = 45.1kΩ, R2 = 13.6kΩ, R3 = 31.2kΩ and R4 = 20.1kΩ.

Answer:

The correct answer is: 1.21

Question 4

Correct

Mark 1.0 out of 1.0

If a 23.3nH inductor, a 18.9nH inductor and a 46.6nH inductor are all connected in parallel, then what is the total inductance of this parallel combination in nano Henries ?

Answer: 8.53

The correct answer is: 8.53

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in parallel, R1 and R2, and less current flows through R1 than through R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. R1 has a lower resistance than R2
- c. R1 has the same resistance as R2
- d. No way to determine
- e. None of these

The correct answer is: R1 has a higher resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

Resistors in series can be combined to find the total equivalent resistance by :

Select one:

- a. Taking the reciprocal of the sum of the reciprocals of each resistance
- b. Adding the reciprocal of each resistance together
- c. Adding the resistances together ✓
- d. Multiplying the resistances together
- e. None of the these

The correct answer is: Adding the resistances together

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

The energy stored by a capacitor is given by :

Select one:

- a. C*V*I
- b. C*V*V/2 ✓
- c. C*I*I/2
- d. None of the these
- e. C*V/I

The correct answer is: C*V*V/2

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

The current through an ideal current source increases as the voltage across it increases.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

The power dissipated by a resistor is equal to the square of the current flowing through the resistor multiplied by the resistance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

The phrase “ELI the ICE man” is a good way to remember that voltage leads current in an inductor, and current leads voltage in a capacitor.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

For a capacitor, the phase of the current lags the voltage by 90 degrees.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 0.0 out of 1.0

The charge stored on a capacitor is equal to the value of the voltage across the capacitor multiplied by the capacitance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 10

Correct

Mark 1.0 out of 1.0

The phrase “ELI the ICE man” is a good way to remember that voltage lags current in an inductor, and current lags voltage in a capacitor.

Select one:

- True
- False ✓

The correct answer is 'False'.

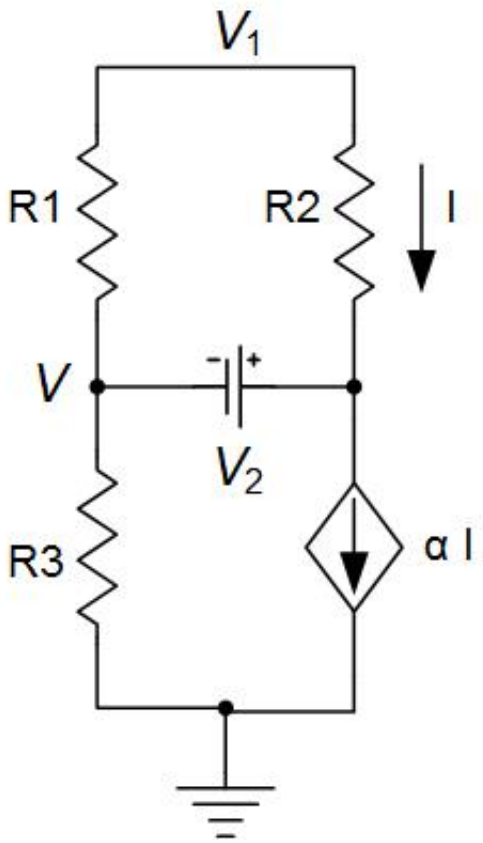
Correct

Marks for this submission: 1.0/1.0.

Question 9

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 10.4V, V2 = 1.1V, R1 = 16.0kΩ, R2 = 6.8kΩ, R3 = 4.7kΩ and α = 0.91.

Answer: ✗

The correct answer is: 2.68

Question 10

Not answered

Mark 0.0 out of 1.0

If a resistor has 6.3 volts across it when 5.02mA flow through it, then what is the value of this resistor in kilohms?

Answer: ✗

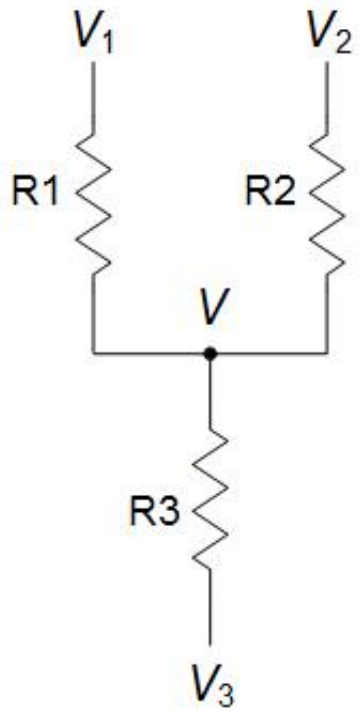
The correct answer is: 1.25

Started on	Friday, 8 September 2017, 10:44 PM
State	Finished
Completed on	Friday, 8 September 2017, 10:47 PM
Time taken	2 mins 25 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 9.1V, V2 = 16.8V, V3 = 3.6V, R1 = 10.4kΩ, R2 = 19.7kΩ, and R3 = 17.9kΩ.

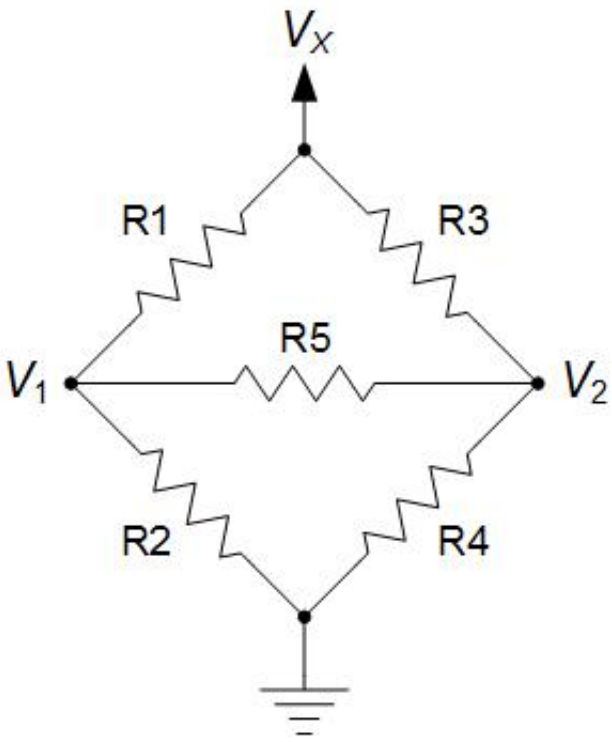
Answer:

The correct answer is: 9.51

Question 2

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the resistance seen by the voltage source Vx in kilohms? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 6.7V, R1 = 6.2kΩ, R2 = 3.0kΩ, R3 = 9.8kΩ, R4 = 8.2kΩ and R5 = 8.5kΩ.

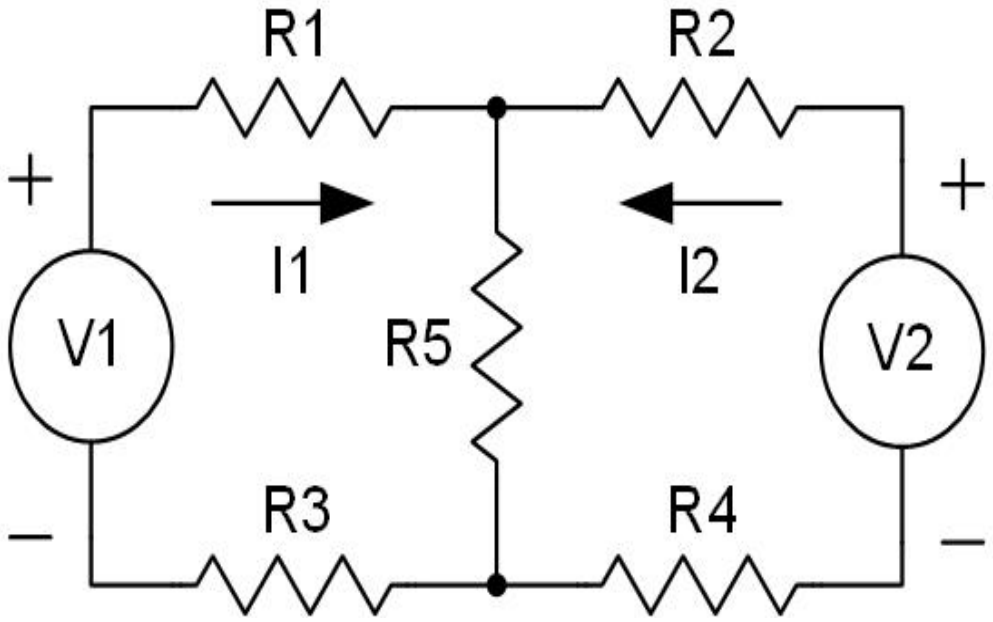
Answer:

The correct answer is: 6.047056530

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 17.2V, V2 = 19.3V, R1 = 9.7kΩ, R2 = 11.0kΩ, R3 = 5.9kΩ, R4 = 6.0kΩ and R5 = 1.9kΩ.

Answer:

The correct answer is: 0.933

Started on	Saturday, 9 September 2017, 2:05 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:10 PM
Time taken	5 mins 27 secs
Grade	**3.5** out of 10.0 (**35**%)

Question 1

Not answered

Mark 0.0 out of 1.0

What is the phase in degrees of the complex impedance, Z, for a 291Ω resistor in series with a 4.6pF capacitor at 20.2MHz?

Answer:

The correct answer is: -80.36

Question 2

Not answered

Mark 0.0 out of 1.0

If a 4.7V voltage source is applied across a 13.3kΩ resistor connected in series with a 45.8kΩ resistor, then what is the voltage across the 13.3kΩ resistor in volts?

Answer:

The correct answer is: 1.06

Question 3

Not answered

Mark 0.0 out of 1.0

If a 10.5V voltage source is applied across a 41.4kΩ resistor connected in series with a 32.8kΩ resistor and a 35.6kΩ resistor, then what is the voltage across the 41.4kΩ resistor in volts?

Answer:

The correct answer is: 3.96

Question 4

Not answered

Mark 0.0 out of 1.0

If a 11.3mA current source, a 8.1kΩ resistor, a 7.5kΩ resistor and a 40.4kΩ resistor are all connected in parallel, then what is the current through the 8.1kΩ resistor in milliamps?

Answer:

The correct answer is: 4.96

Question 5

Correct

Mark 1.0 out of 1.0

If a circuit has 2 nodes and 3 loops in it, then :

Select one:

- a. Nodal analysis will require solving more equations than Mesh analysis
- b. It is impossible to determine which method will require solving more equations
- c. Mesh analysis will require solving more equations than Nodal analysis ✓
- d. None of these
- e. Both Nodal and Mesh analysis will require solving the same number of equations

The correct answer is: Mesh analysis will require solving more equations than Nodal analysis

Correct

Marks for this submission: 1.0/1.0.

Question 6

Not answered

Mark 0.0 out of 1.0

Which of the following is NOT true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance
- b. None of these
- c. The Norton's equivalent current is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance
- d. The Norton's equivalent current is the output current with a short circuit at the output
- e. The Thevenin's equivalent voltage is the output voltage with an open circuit at the output

The correct answer is: The Norton's equivalent current is equal to the Thevenin's equivalent voltage multiplied by the Thevenin's equivalent resistance

Question 7

Correct

Mark 0.5 out of 1.0

If the frequency of a constant AC current source applied to an ideal capacitor is decreased, then the voltage across the capacitor will :

Select one:

- a. None of these
- b. Increase ✓
- c. Decrease
- d. Stay constant
- e. No way to determine

The correct answer is: Increase

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

Nodal analysis and Mesh analysis usually give the same results for the same circuit, but not always.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

An inductor looks like a short circuit at very high frequencies.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 0.0 out of 1.0

Inductors in series can be combined to find the total equivalent inductance by taking the reciprocal of the sum of the reciprocals of each inductance.

Select one:

- True
- False ✓

The correct answer is 'False'.

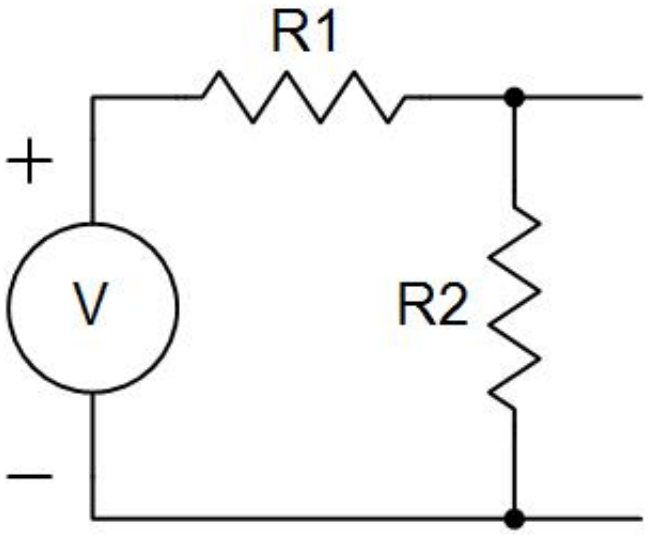
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 4

Not answered

Mark 0.0 out of 1.0



Use Thevenin's Theorem to find the value of the open circuit output voltage for the circuit shown in volts. Use: V = 3.2V, R1 = 21.4kΩ and R2 = 18.8kΩ.

Answer: ✗

The correct answer is: 1.50

Question 5

Incorrect

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal capacitor is increased, then the voltage across the capacitor will :

Select one:

- a. Stay constant
- b. None of these
- c. Decrease
- d. No way to determine
- e. Increase ✗

The correct answer is: Decrease

Incorrect

Marks for this submission: 0.0/1.0.

Question 6

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and more current flows through R1 than through R2, then :

Select one:

- a. R1 has the same resistance as R2
- b. None of these
- c. R1 has a lower resistance than R2
- d. No way to determine
- e. R1 has a higher resistance than R2

The correct answer is: R1 has a lower resistance than R2

Question 7

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks like a short circuit at very low frequencies?

Select one:

- a. Capacitors
- b. Resistors
- c. None of these
- d. All of these
- e. Inductors

The correct answer is: Inductors

Question 8

Not answered

Mark 0.0 out of 1.0

The charge stored on a capacitor is equal to the value of the voltage across the capacitor divided by the capacitance.

Select one:

- True
- False

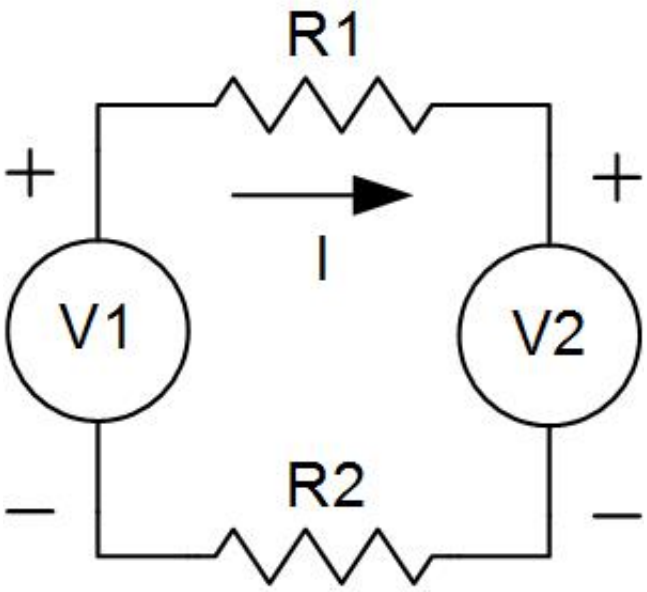
The correct answer is 'False'.

Started on	Thursday, 31 August 2017, 2:01 PM
State	Finished
Completed on	Friday, 8 September 2017, 1:32 PM
Time taken	7 days 23 hours
Grade	**5.0** out of 10.0 (**50**%)

Question 1

Correct

Mark 1.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 6.9V, V2 = 8.5V, R1 = 6.7kΩ and R2 = 17.0kΩ.

Answer: -0.0675

The correct answer is: -0.068

Correct

Marks for this submission: 1.0/1.0.

Question 2

Correct

Mark 0.0 out of 1.0

What is the phase in degrees of the complex impedance, Z, for a 79Ω resistor in series with a 5.2pF capacitor at 92.7MHz?

Answer: -76.54

The correct answer is: -76.54

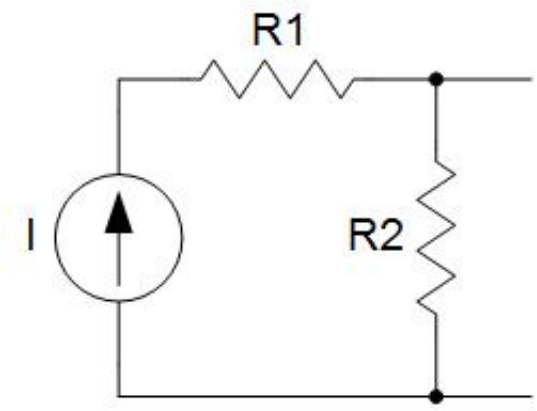
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 3

Correct

Mark 1.0 out of 1.0



Use Norton's Theorem to find the value of the short circuit output current for the circuit shown in milliamps. Use: I = 2.1mA, R1 = 38.1kΩ and R2 = 45.8kΩ.

Answer: 2.1

The correct answer is: 2.10

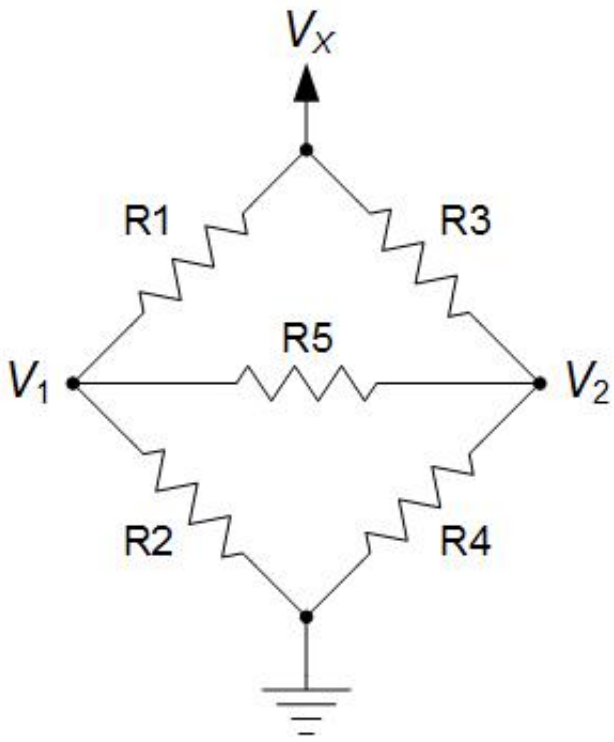
Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0



For the bridge circuit shown what is V12, the voltage across R5, in millivolts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 3.2V, R1 = 4.5kΩ, R2 = 8.4kΩ, R3 = 5.1kΩ, R4 = 7.3kΩ and R5 = 7.6kΩ.

Answer: 112.34

The correct answer is: 112.2

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

In the phrase “ELI the ICE man” the letter I stands for :

Select one:

- a. Voltage
- b. Energy
- c. None of these
- d. Power
- e. Current ✓

The correct answer is: Current

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 0.0 out of 1.0

Capacitors in series can be combined to find the total equivalent capacitance by :

Select one:

- a. Adding the capacitances together
- b. Adding the reciprocal of each capacitance together
- c. Multiplying the capacitances together
- d. None of the these
- e. Taking the reciprocal of the sum of the reciprocals of each capacitance ✓

The correct answer is: Taking the reciprocal of the sum of the reciprocals of each capacitance

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 7

Correct

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in series, R1 and R2, and less of the voltage appears across R1 than across R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. R1 has a lower resistance than R2 ✓
- c. None of these
- d. R1 has the same resistance as R2
- e. No way to determine

The correct answer is: R1 has a lower resistance than R2

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

For an inductor, the phase of the voltage lags the current by 90 degrees.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 0.0 out of 1.0

The power dissipated by an ideal inductor is equal to the square of the voltage across the inductor divided by the inductance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 10

Correct

Mark 0.0 out of 1.0

The voltage across an ideal voltage source increases as the current through it increases.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 9

Not answered

Mark 0.0 out of 1.0

The Norton's equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all independent voltage and current sources are set equal to zero.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, the one with the higher resistance will have a smaller current flowing through it than the other resistor.

Select one:

- True
- False

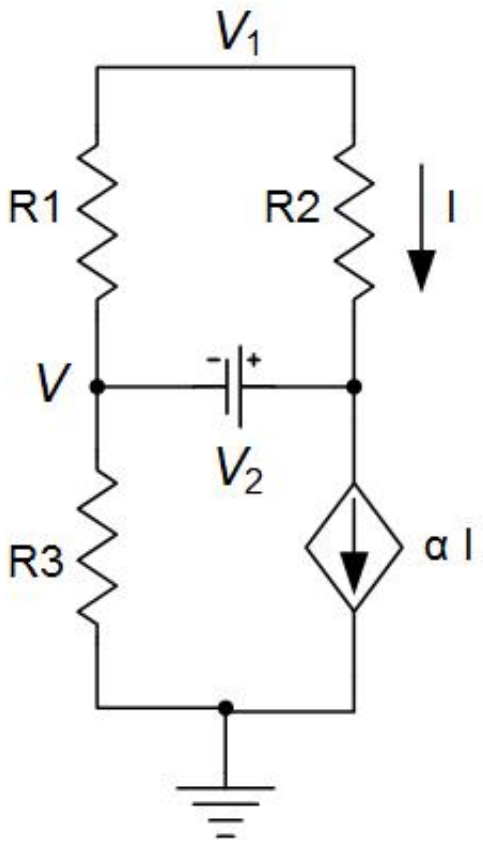
The correct answer is 'True'.

Started on	Friday, 8 September 2017, 1:33 PM
State	Finished
Completed on	Friday, 8 September 2017, 7:40 PM
Time taken	6 hours 6 mins
Grade	**6.0** out of 10.0 (**60**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 18.6V, V2 = 1.2V, R1 = 9.4kΩ, R2 = 1.4kΩ, R3 = 1.1kΩ and α = 0.87.

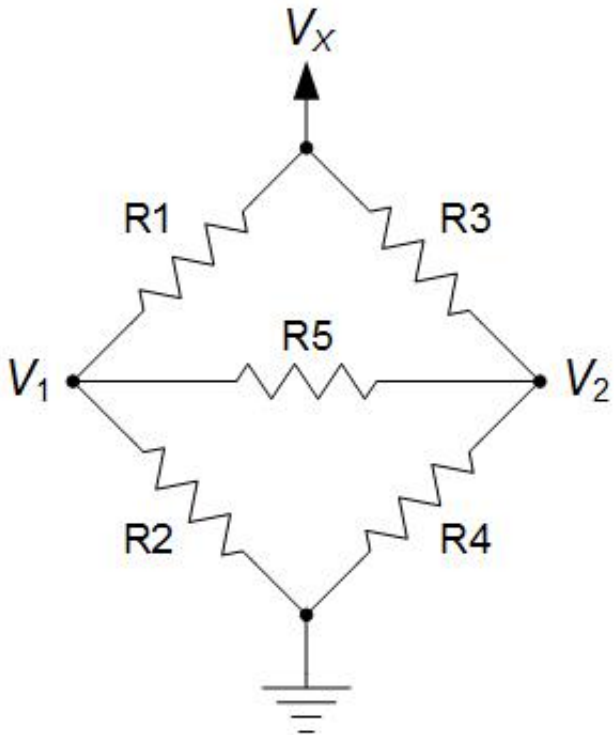
Answer:

The correct answer is: 10.112

Question 2

Incorrect

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the voltage V1 in volts? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 3.7V, R1 = 9.0kΩ, R2 = 6.1kΩ, R3 = 8.6kΩ, R4 = 5.1kΩ and R5 = 5.2kΩ.

Answer: 7.344

The correct answer is: 1.46

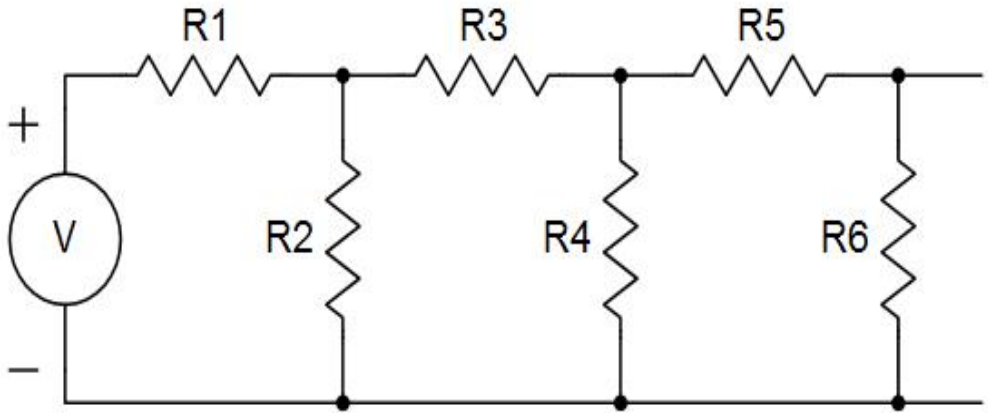
Incorrect

Marks for this submission: 0.0/1.0.

Question 3

Correct

Mark 1.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the open circuit output voltage for the circuit shown in volts. Use: V = 18.4V, R1 = 9.1kΩ, R2 = 31.7kΩ, R3 = 9.5kΩ, R4 = 24.1kΩ, R5 = 11.5kΩ and R6 = 48.8kΩ.

Answer: 5.895

The correct answer is: 5.90

Correct

Marks for this submission: 1.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a 14.1mA current source, a 10.7kΩ resistor, a 15.9kΩ resistor and a 44.0kΩ resistor are all connected in parallel, then what is the current through the 44.0kΩ resistor in milliamps?

Answer: 1.79

The correct answer is: 1.79

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 0.5 out of 1.0

If at t=0 a constant current starts flowing into an ideal capacitor which is initially discharged with zero volts across it, then the voltage across the capacitor will :

Select one:

- a. Stay at zero volts and not change
- b. Grow at an increasing rate as time passes
- c. Grow at first, but then reach a constant value
- d. Grow at a constant rate ✓
- e. None of these

The correct answer is: Grow at a constant rate

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 6

Correct

Mark 0.0 out of 1.0

The power dissipated by a capacitor is given by :

Select one:

- a. None of the these ✓
- b. V*C
- c. I*I/C
- d. I/C
- e. V*V*C

The correct answer is: None of the these

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.0/1.0**.

Question 7

Correct

Mark 0.5 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal capacitor is increased, then the current flowing through the capacitor will :

Select one:

- a. None of these
- b. Stay constant
- c. Increase ✓
- d. No way to determine
- e. Decrease

The correct answer is: Increase

Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 8

Correct

Mark 1.0 out of 1.0

The current flowing through a resistor is equal to the value of the voltage across it multiplied by the resistance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

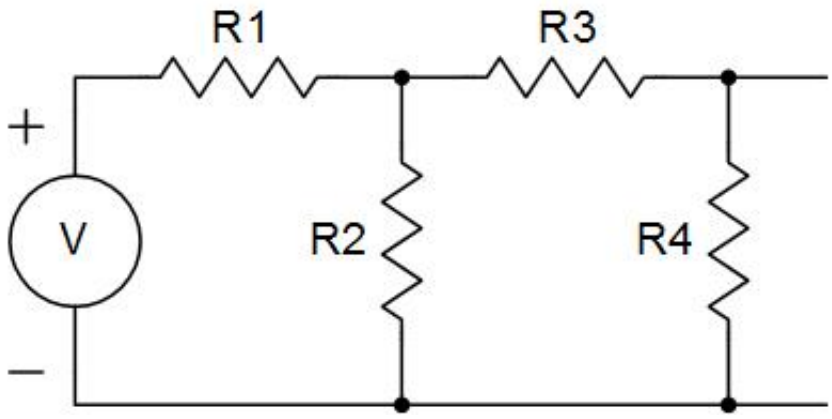
Marks for this submission: 1.0/1.0.

Started on	Friday, 8 September 2017, 9:38 PM
State	Finished
Completed on	Friday, 8 September 2017, 10:41 PM
Time taken	1 hour 3 mins
Grade	**9.0** out of 10.0 (**90**%)

Question 1

Correct

Mark 1.0 out of 1.0



Through repeated applications of Thevenin's Theorem, find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 3.0V, R1 = 25.5kΩ, R2 = 36.7kΩ, R3 = 11.0kΩ and R4 = 30.7kΩ.

Answer: 14.09

The correct answer is: 14.09

Correct

Marks for this submission: 1.0/1.0.

Started on	Saturday, 9 September 2017, 2:23 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:25 PM
Time taken	1 min 8 secs
Grade	**1.0** out of 10.0 (**10**%)

Question 1

Correct

Mark 1.0 out of 1.0

If a 26.0kΩ resistor, a 31.6kΩ resistor and a 15.2kΩ resistor are all connected in parallel, then what is the total resistance of this parallel combination in kilohms?

Answer: 7.36

The correct answer is: 7.36

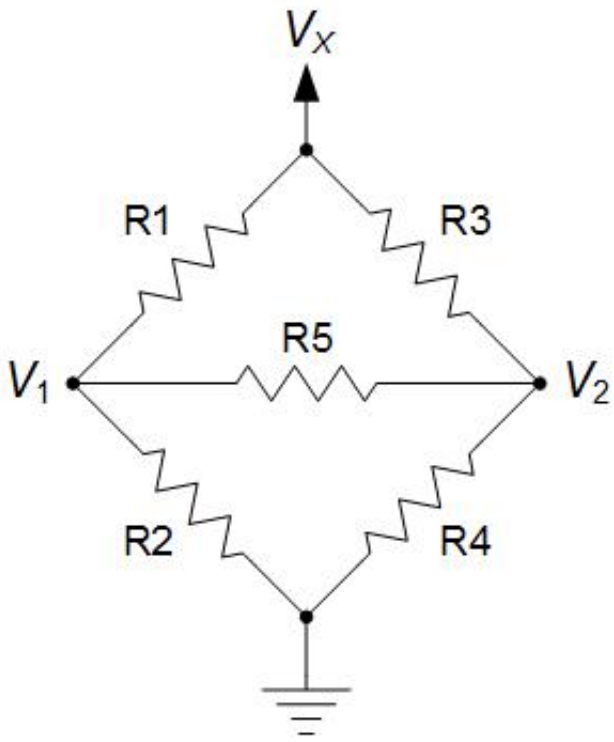
Correct

Marks for this submission: 1.0/1.0.

Question 2

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the resistance seen by the voltage source Vx in kilohms? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 6.8V, R1 = 8.0kΩ, R2 = 2.4kΩ, R3 = 2.5kΩ, R4 = 3.8kΩ and R5 = 10.0kΩ.

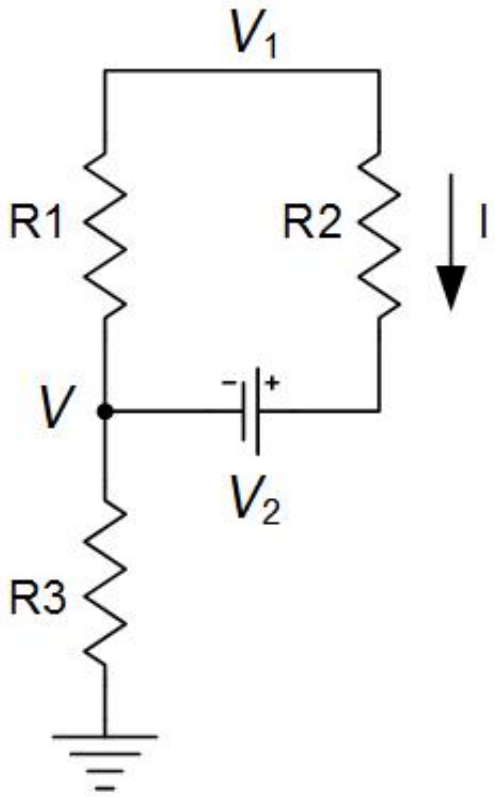
Answer:

The correct answer is: 3.769754416

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 10.5V, V2 = 0.6V, R1 = 1.2kΩ, R2 = 5.1kΩ, and R3 = 16.9kΩ.

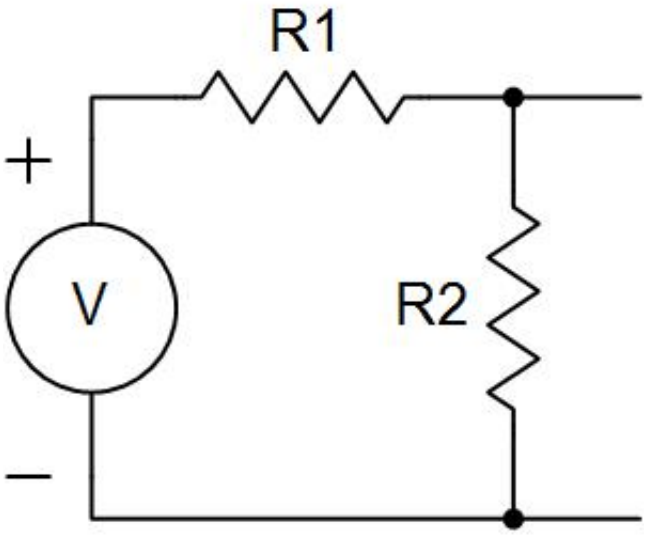
Answer:

The correct answer is: 9.821

Question 4

Incorrect

Mark 0.0 out of 1.0



Use Thevenin's Theorem to find the value of the Thevenin equivalent resistance for the circuit shown in kilohms. Use: V = 18.4V, R1 = 38.6kΩ and R2 = 15.9kΩ.

Answer: 15.9 ✗

The correct answer is: 11.26

Incorrect

Marks for this submission: 0.0/1.0.

Question 5

Not answered

Mark 0.0 out of 1.0

Which of the following is true for Thevenin's and Norton's equivalent circuits ?

Select one:

- a. The Thevenin's equivalent voltage is the output voltage with an open circuit at the output
- b. The Norton's equivalent current is the output current with a short circuit at the output
- c. The Thevenin's equivalent resistance is equal to the Norton's equivalent resistance
- d. All of these
- e. The Thevenin's equivalent voltage is equal to the Norton's equivalent current multiplied by the Norton's equivalent resistance

The correct answer is: All of these

Question 6

Not answered

Mark 0.0 out of 1.0

The power dissipated by a resistor is given by :

Select one:

- a. V*V*R
- b. V/R
- c. I*I*R
- d. None of the these
- e. I*R

The correct answer is: I*I*R

Question 7

Not answered

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal inductor is decreased, then the voltage across the inductor will :

Select one:

- a. No way to determine
- b. None of these
- c. Decrease
- d. Increase
- e. Stay constant

The correct answer is: Decrease

Question 8

Not answered

Mark 0.0 out of 1.0

A capacitor looks like a short circuit at very high frequencies.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

The Norton’s equivalent current for a circuit is found by measuring the short circuit output current of the circuit.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

The Thevenin’s equivalent voltage for a circuit is equal to the Norton’s equivalent current multiplied by the Norton’s equivalent resistance for the same circuit.

Select one:

- True
- False

The correct answer is 'True'.

Started on	Saturday, 9 September 2017, 2:10 PM
State	Finished
Completed on	Saturday, 9 September 2017, 2:23 PM
Time taken	12 mins 34 secs
Grade	**8.5** out of 10.0 (**85**%)

Question 1

Correct

Mark 0.5 out of 1.0

If the Norton equivalent for a circuit is a 4.0mA current source in parallel with a 48.5kΩ resistor, then what is the Thevenin equivalent resistance for this circuit in kilohms?

Answer: 48.5

The correct answer is: 48.50

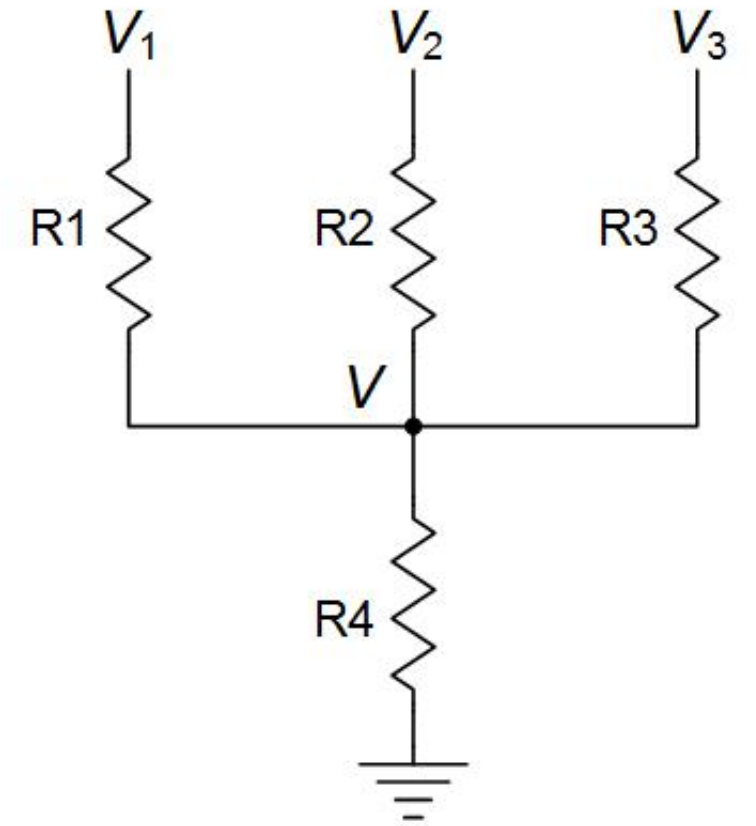
Correct

Marks for this submission: 1.0/1.0. Accounting for previous tries, this gives **0.5/1.0**.

Question 2

Correct

Mark 1.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 13.0V, V2 = 5.8V, V3 = 12.8V, R1 = 15.9kΩ, R2 = 16.6kΩ, R3 = 8.8kΩ, and R4 = 10.1kΩ.

Answer: 7.81

The correct answer is: 7.81

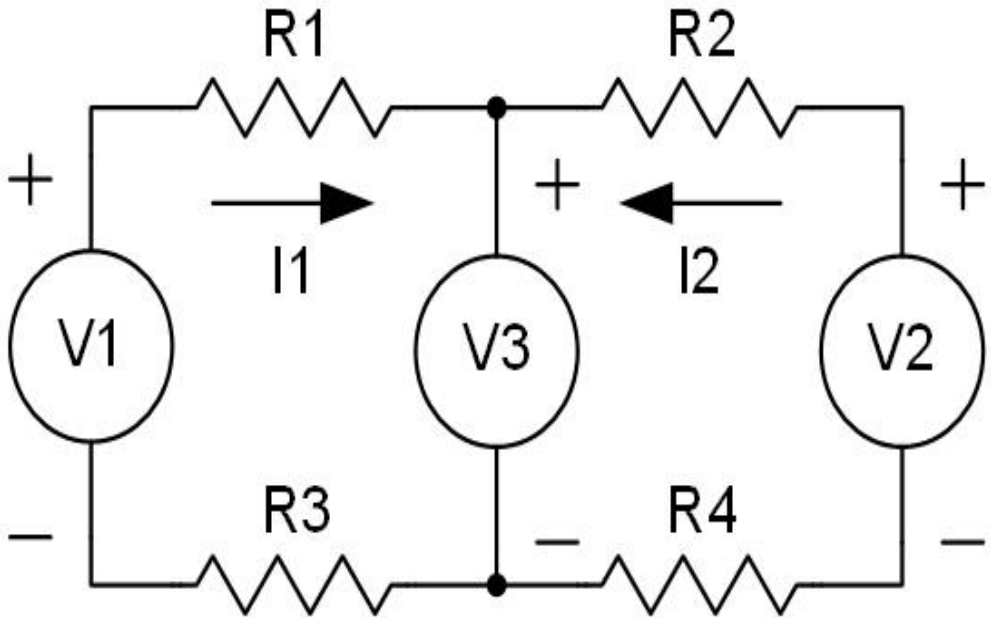
Correct

Marks for this submission: 1.0/1.0.

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I1 in milliamps? Use: V1 = 15.2V, V2 = 14.8V, V3 = 6.4V, R1 = 17.2kΩ, R2 = 5.8kΩ, R3 = 9.6kΩ and R4 = 1.9kΩ.

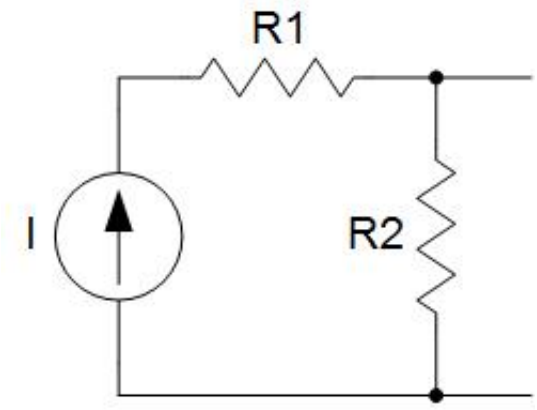
Answer:

The correct answer is: 0.328

Question 4

Correct

Mark 1.0 out of 1.0



Use Norton's Theorem to find the value of the Norton equivalent resistance for the circuit shown in kilohms. Use: I = 8.9mA, R1 = 18.5kΩ and R2 = 7.6kΩ.

Answer: 7.6 ✓

The correct answer is: 7.60

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the phase of the current flowing through the element equal the phase of the voltage across it?

Select one:

- a. Inductors
- b. Capacitors
- c. None of these
- d. Resistors ✓
- e. All of these

The correct answer is: Resistors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

Inductors in series can be combined to find the total equivalent inductance by :

Select one:

- a. None of the these
- b. Taking the reciprocal of the sum of the reciprocals of each inductance
- c. Multiplying the inductances together
- d. Adding the inductances together ✓
- e. Adding the reciprocal of each inductance together

The correct answer is: Adding the inductances together

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in parallel, R1 and R2, and the same current flows through both R1 and R2, then :

Select one:

- a. R1 has a higher resistance than R2
- b. R1 has a lower resistance than R2
- c. No way to determine
- d. None of these
- e. R1 has the same resistance as R2 ✓

The correct answer is: R1 has the same resistance as R2

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

The Norton's equivalent resistance for a circuit is always equal to twice the value of the Thevenin's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in series, the one with the higher resistance will have a larger current flowing through it than the other resistor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

If a current source is applied to two resistors in parallel, the one with the higher resistance will have a larger voltage across it than the other resistor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Started on	Friday, 8 September 2017, 10:44 PM
State	Finished
Completed on	Friday, 8 September 2017, 10:44 PM
Time taken	21 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0

If the Norton equivalent for a circuit is a 1.2mA current source in parallel with a 12.9kΩ resistor, then what is the Thevenin equivalent resistance for this circuit in kilohms?

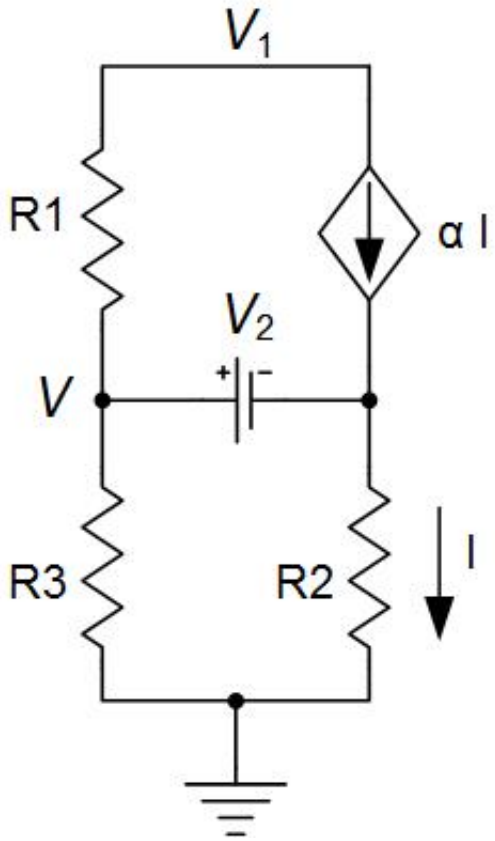
Answer:

The correct answer is: 12.90

Question 2

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 19.4V, V2 = 2.0V, R1 = 15.7kΩ, R2 = 2.9kΩ, R3 = 11.7kΩ and α = 0.91.

Answer:

The correct answer is: 7.20

Question 3

Not answered

Mark 0.0 out of 1.0

If a 22.8kΩ resistor is connected in parallel with a 14.2kΩ resistor, then what is the total resistance of this parallel combination in kilohms?

Answer:

The correct answer is: 8.75

Question 4

Not answered

Mark 0.0 out of 1.0

If a 4.0kΩ resistor has 0.16mA flowing through it, then what is the value of the voltage across this resistor in volts?

Answer:

The correct answer is: 0.64

Question 5

Not answered

Mark 0.0 out of 1.0

The energy stored by an inductor is given by :

Select one:

- a. L*V*I
- b. L*V/I
- c. L*I*I/2
- d. None of the these
- e. L*V*V/2

The correct answer is: L*I*I/2

Question 6

Not answered

Mark 0.0 out of 1.0

For which of the following circuit elements does the magnitude of the impedance stay the same as frequency increases?

Select one:

- a. Resistors
- b. Inductors
- c. All of these
- d. Capacitors
- e. None of these

The correct answer is: Resistors

Question 7

Not answered

Mark 0.0 out of 1.0

If the frequency of a constant AC voltage source applied across an ideal resistor is increased, then the current flowing through the resistor will :

Select one:

- a. No way to determine
- b. None of these
- c. Stay constant
- d. Decrease
- e. Increase

The correct answer is: Stay constant

Question 8

Not answered

Mark 0.0 out of 1.0

The impedance of a capacitor decreases as frequency increases.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Not answered

Mark 0.0 out of 1.0

Ideal capacitors can store energy, but don’t dissipate any power.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

The voltage across a capacitor is equal to the value of the charge stored on it divided by the capacitance.

Select one:

- True
- False

The correct answer is 'True'.

Question 2

Correct

Mark 1.0 out of 1.0

If a 3.0mA current source is applied to a 11.7kΩ resistor connected in parallel with a 32.3kΩ resistor, then what is the current through the 32.3kΩ resistor in milliamps?

Answer: 0.798

The correct answer is: 0.80

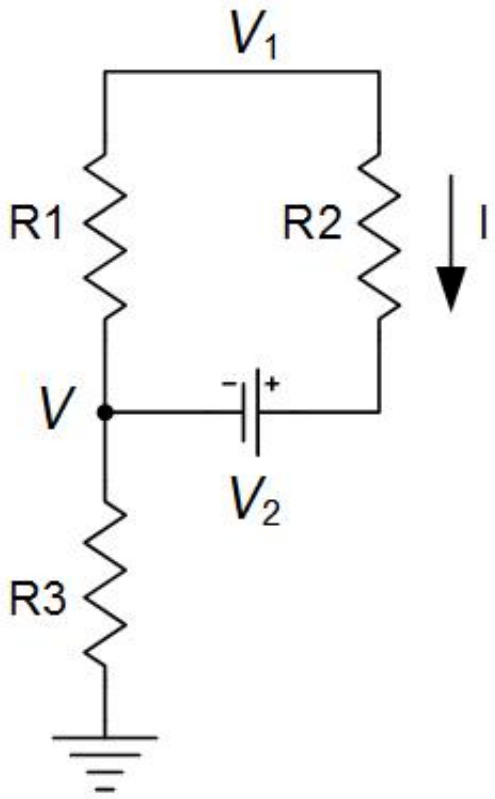
Correct

Marks for this submission: 1.0/1.0.

Question 3

Incorrect

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I in milliamps? Use: V1 = 5.1V, V2 = 1.5V, R1 = 13.7kΩ, R2 = 3.9kΩ, and R3 = 8.9kΩ.

Answer: -0.7

The correct answer is: 0.171

Incorrect

Marks for this submission: 0.0/1.0.

Question 4

Correct

Mark 1.0 out of 1.0

If a 31.5pF capacitor is connected in parallel with a 29.6pF capacitor, then what is the total capacitance of this parallel combination in pico Farads?

Answer: 61.1

The correct answer is: 61.10

Correct

Marks for this submission: 1.0/1.0.

Question 5

Correct

Mark 1.0 out of 1.0

For which of the following circuit elements does the phase of the voltage across the element equal the phase of the current flowing through it?

Select one:

- a. None of these
- b. Capacitors
- c. Resistors
- d. Inductors
- e. All of these

The correct answer is: Resistors

Correct

Marks for this submission: 1.0/1.0.

Question 6

Correct

Mark 1.0 out of 1.0

If at t=0 the current flowing through an ideal resistor is suddenly increased, then the voltage across the resistor will :

Select one:

- a. Increase more quickly than the current
- b. Increase at the same rate as the current ✓
- c. Stay constant and not increase
- d. Increase more slowly than the current
- e. None of these

The correct answer is: Increase at the same rate as the current

Correct

Marks for this submission: 1.0/1.0.

Question 7

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and less current flows through R1 than through R2, then :

Select one:

- a. R1 has the same resistance as R2
- b. R1 has a higher resistance than R2 ✓
- c. None of these
- d. R1 has a lower resistance than R2
- e. No way to determine

The correct answer is: R1 has a higher resistance than R2

Correct

Marks for this submission: 1.0/1.0.

Question 8

Correct

Mark 1.0 out of 1.0

Inductors in parallel can be combined to find the total equivalent inductance by taking the reciprocal of the sum of the reciprocals of each inductance.

Select one:

- True ✓
- False

The correct answer is 'True'.

Correct

Marks for this submission: 1.0/1.0.

Question 9

Correct

Mark 1.0 out of 1.0

The power dissipated by an ideal capacitor is equal to the square of the current flowing through the capacitor multiplied by the capacitance.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

If a voltage source is applied across two resistors in series, the one with the higher resistance will have a smaller voltage across it than the other resistor.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

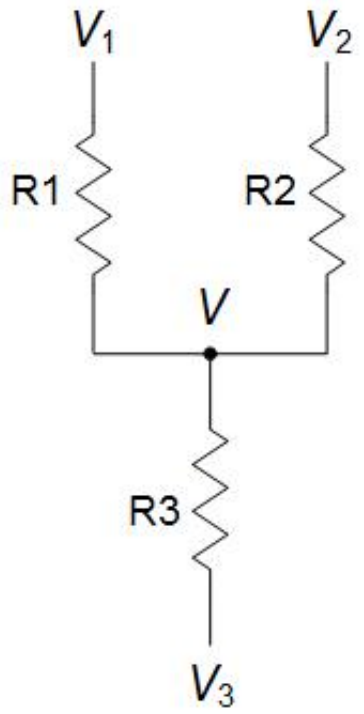
Marks for this submission: 1.0/1.0.

Started on	Friday, 8 September 2017, 10:44 PM
State	Finished
Completed on	Friday, 8 September 2017, 10:47 PM
Time taken	2 mins 25 secs
Grade	**0.0** out of 10.0 (**0**%)

Question 1

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the voltage V in volts? Use: V1 = 9.1V, V2 = 16.8V, V3 = 3.6V, R1 = 10.4kΩ, R2 = 19.7kΩ, and R3 = 17.9kΩ.

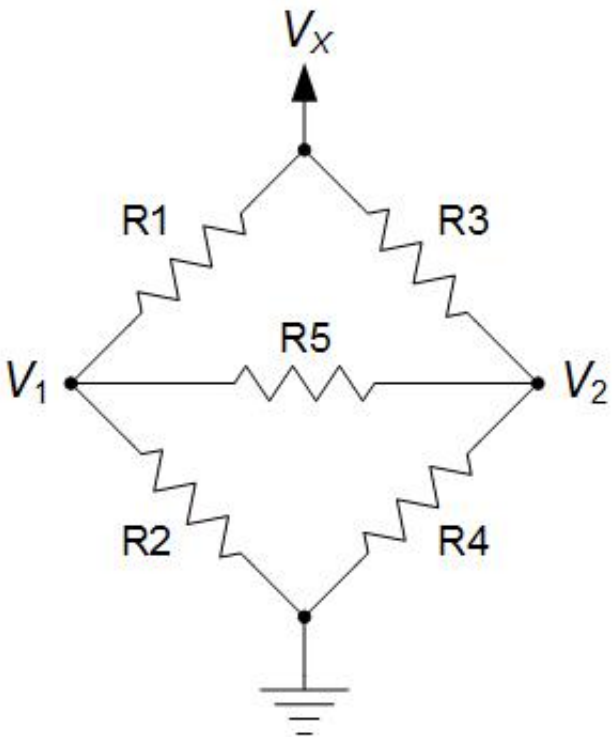
Answer:

The correct answer is: 9.51

Question 2

Not answered

Mark 0.0 out of 1.0



For the bridge circuit shown, what is the value of the resistance seen by the voltage source Vx in kilohms? (Hint: Use Thevenin equivalents to solve this problem more easily.) Use: Vx = 6.7V, R1 = 6.2kΩ, R2 = 3.0kΩ, R3 = 9.8kΩ, R4 = 8.2kΩ and R5 = 8.5kΩ.

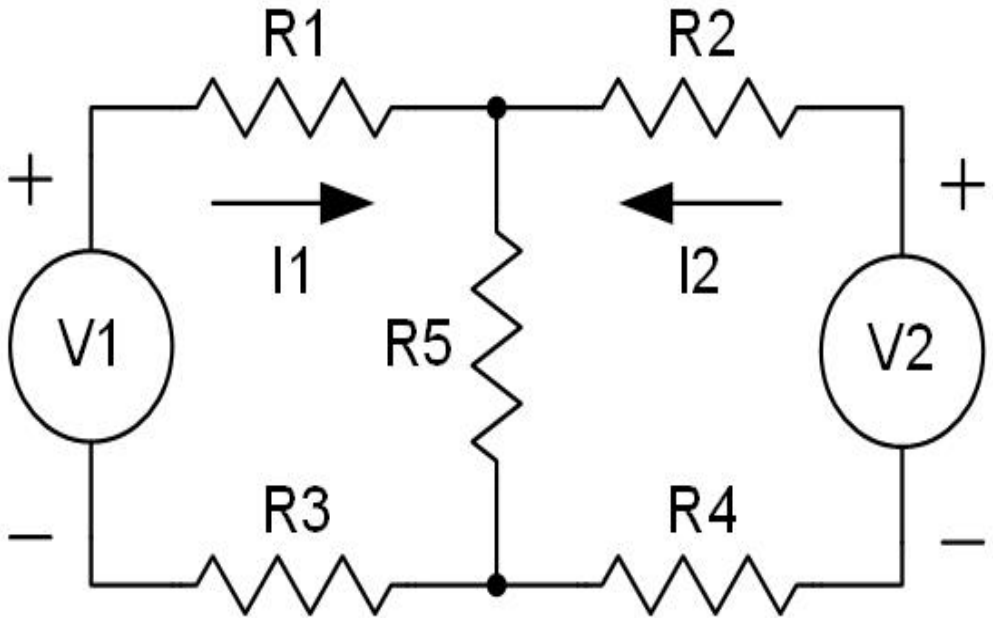
Answer:

The correct answer is: 6.047056530

Question 3

Not answered

Mark 0.0 out of 1.0



For the circuit shown, what is the value of the current I2 in milliamps? Use: V1 = 17.2V, V2 = 19.3V, R1 = 9.7kΩ, R2 = 11.0kΩ, R3 = 5.9kΩ, R4 = 6.0kΩ and R5 = 1.9kΩ.

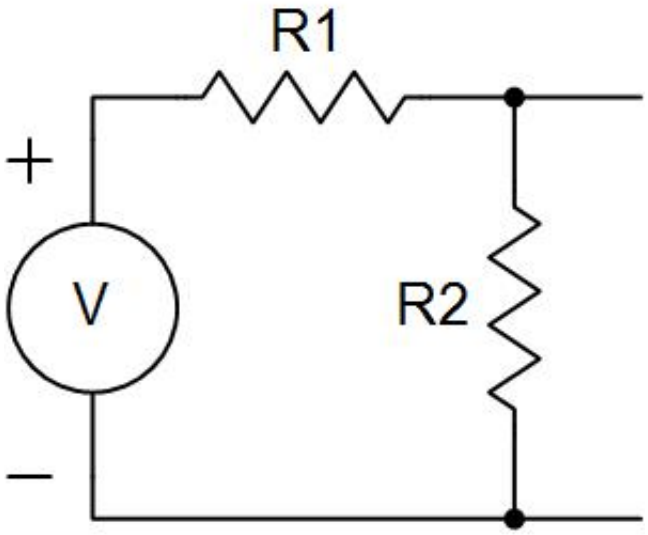
Answer:

The correct answer is: 0.933

Question 4

Not answered

Mark 0.0 out of 1.0



Use Thevenin's Theorem to find the value of the open circuit output voltage for the circuit shown in volts. Use: V = 3.2V, R1 = 21.4kΩ and R2 = 18.8kΩ.

Answer: ✗

The correct answer is: 1.50

Question 5

Incorrect

Mark 0.0 out of 1.0

If the frequency of a constant AC current source applied to an ideal capacitor is increased, then the voltage across the capacitor will :

Select one:

- a. Stay constant
- b. None of these
- c. Decrease
- d. No way to determine
- e. Increase ✗

The correct answer is: Decrease

Incorrect

Marks for this submission: 0.0/1.0.

Question 6

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, R1 and R2, and more current flows through R1 than through R2, then :

Select one:

- a. R1 has the same resistance as R2
- b. None of these
- c. R1 has a lower resistance than R2
- d. No way to determine
- e. R1 has a higher resistance than R2

The correct answer is: R1 has a lower resistance than R2

Question 7

Not answered

Mark 0.0 out of 1.0

Which of the following circuit elements looks like a short circuit at very low frequencies?

Select one:

- a. Capacitors
- b. Resistors
- c. None of these
- d. All of these
- e. Inductors

The correct answer is: Inductors

Question 8

Not answered

Mark 0.0 out of 1.0

The charge stored on a capacitor is equal to the value of the voltage across the capacitor divided by the capacitance.

Select one:

- True
- False

The correct answer is 'False'.

Question 9

Not answered

Mark 0.0 out of 1.0

The Norton's equivalent resistance for a circuit is found by measuring the resistance looking into the output terminals of the circuit while all independent voltage and current sources are set equal to zero.

Select one:

- True
- False

The correct answer is 'True'.

Question 10

Not answered

Mark 0.0 out of 1.0

If a voltage source is applied across two resistors in parallel, the one with the higher resistance will have a smaller current flowing through it than the other resistor.

Select one:

- True
- False

The correct answer is 'True'.

Question 9

Correct

Mark 1.0 out of 1.0

The Thevenin's equivalent resistance for a circuit is always equal to half of the value of the Norton's equivalent resistance for the same circuit.

Select one:

- True
- False ✓

The correct answer is 'False'.

Correct

Marks for this submission: 1.0/1.0.

Question 10

Correct

Mark 1.0 out of 1.0

The Norton's equivalent current for a circuit is found by measuring the output current of the circuit while the output is short circuited.

Select one:

- True ✓
- False

The correct answer is 'True'.

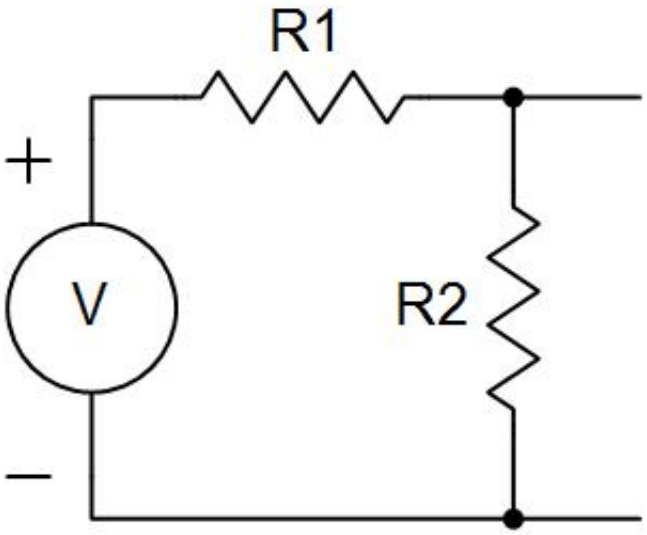
Correct

Marks for this submission: 1.0/1.0.

Question 10

Not answered

Mark 0.0 out of 1.0



Use Thevenin's Theorem to find the value of the open circuit output voltage for the circuit shown in volts. Use: V = 19.6V, R1 = 47.4kΩ and R2 = 15.8kΩ.

Answer:

The correct answer is: 4.90