Circle the letter of the correct answer.

1. If five resistors are in series, how is the equivalent resistance calculated?
2. By adding the inverse of the resistance
3. By adding all five resistors together
4. By adding a fraction of each resistor
5. By multiplying all five resistors together
6. By multiplying each resistor by the current and then dividing them by the voltage
7. None of the above
8. The current entering a node equals the sum of current leaving the node.

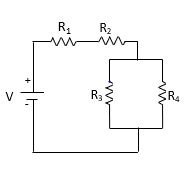
True

False

1. According to Kirchhoff's Voltage Law the algebraic \_\_\_\_\_\_ of voltages around any \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ in a circuit is \_\_\_\_\_\_\_.
   1. Product, open loop, one
   2. Sum, open loop, zero
   3. Difference, open loop, one
   4. Product, closed loop, zero
   5. Sum, closed loop, zero
   6. Difference, closed loop, zero
2. The multimeter becomes part of the circuit (placed in the circuit) when measuring:
   1. Voltage
   2. Power
   3. Current
   4. Equivalent resistance
   5. All of the above
   6. None of the above

**SHOW WORK** on all circuit computations.

1. What is the equivalent resistance of the circuit below?



1. 890Ω

Given:

R1= 470Ω

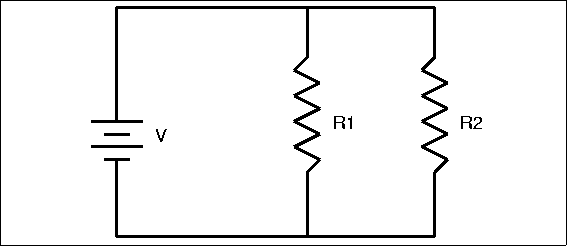
R2= 220Ω

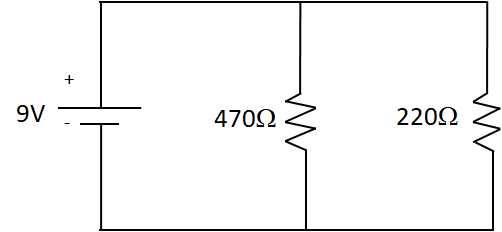
R3=100Ω

R4= 100Ω

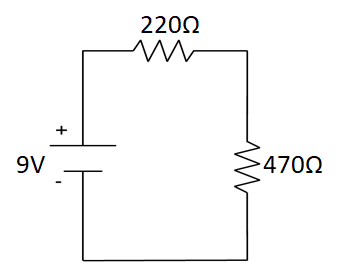
1. 740Ω
2. 710Ω
3. 690Ω
4. 50Ω
5. 38Ω
6. What is the value of a yellow, violet, brown banded resistor? (circle one)

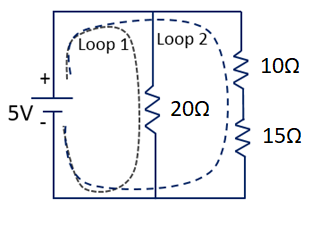
470Ω 220Ω 560Ω 1000Ω 700Ω 630Ω

1. The circuit below is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ circuit.
2. Series
3. Parallel
4. Neither
5. Both
6. In the following circuit, what is the voltage drop across the 220Ω resistor?

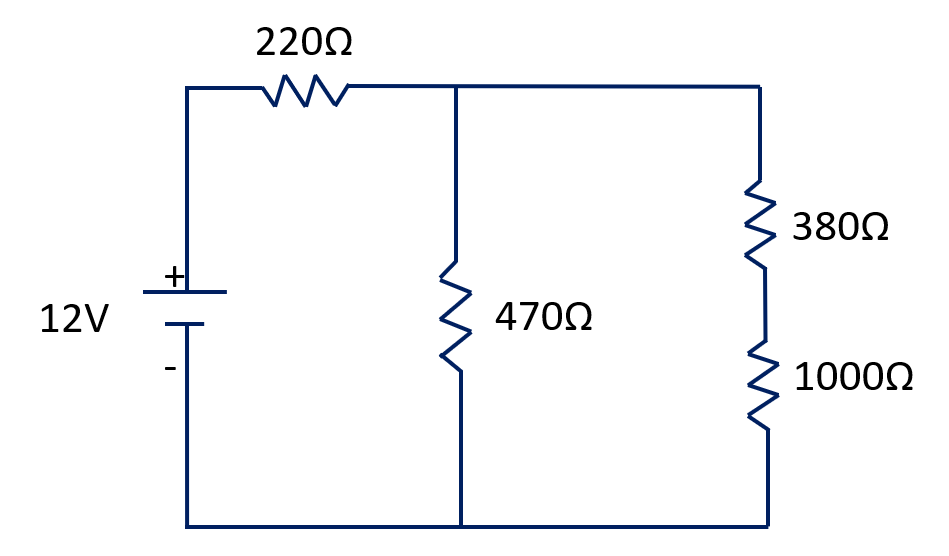


1. 2.87V
2. 3.00V
3. 4.23V
4. 5.12V
5. 9.00V
6. 13.21V
7. In the following circuit, what is the voltage drop across the 470Ω resistor.



1. 2.87V
2. 3.00V
3. 4.21V
4. 6.13V
5. 9.00V
6. 13.21V
7. What is the equivalent resistance of the circuit below?
8. 5.03Ω
9. 10.43Ω
10. 11.11Ω
11. 20Ω
12. 25Ω
13. 45Ω

In this circuit, find the following: (Round each answer to 1 decimal place.) **SHOW WORK**

1. Find the equivalent resistance.

1. Find the source current. (in mA)

1. Find the voltage drop across the 220Ω resistor.

1. Find the current in the 470Ω resistor. (in mA).

1. Use KCL to find the current through the 380Ω resistor.

For questions 16-22 use the image shown. Circle the correct letter.

1. What setting, on a multimeter, do you measure DC volts?

A B C D E F G H I

1. What setting, on a multimeter, do you use to measure AC volts?

A B C D E F G H I

1. What setting, on a multimeter, do you use to measure resistance?

A B C D E F G H I

1. What setting, on a multimeter, do you use to test continuity between two points?

A B C D E F G H I

1. What setting, on a multimeter, do you use to measure DC current in mA (0-200mA)?

A B C D E F G H I

1. What setting, on a multimeter, do you use to measure DC current in mA (0-10A)?

A B C D E F G H I

1. What setting, on a multimeter, do you use to measure AC current in mA 0-200mA?

A B C D E F G H I