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1. Resistance of a wire is yΩ. The wire is stretched to triple its length, then the resistance becomes
a) y/3
b) 3y
c) 6y
d) y/6
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Answer: b
Explanation: Resistance of a conductor is directly proportional to its length. That is, when the length of conductor is tripled, its resistance also gets tripled.

2. An electric current of 10 A is the same as
a) 10 J/C
b) 10 V/C
c) 10C/sec
d) 10 W/sec
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Answer: c
Explanation: Mathematically, electric current can be defined as the ratio of the charge to the time in which charge flows.

3. Consider a circuit with two unequal resistances in parallel, then
a) large current flows in large resistor
b) current is same in both
c) potential difference across each is same
d) smaller resistance has smaller conductance
View Answer

Answer: c
Explanation: In parallel combination of resistors, the potential difference across each resistors is the same.

4. In which of the following cases is Ohm's law not applicable?
a) Electrolytes
b) Arc lamps
c) Insulators
d) Vacuum ratio values
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Answer: c
Explanation: According to the Ohm's law, it is applicable only to conductors. Hence, Ohm's law is not applicable in case of insulators.

5. A copper wire of length l and diameter d has potential difference V applied at its two ends. The drift velocity is V. If the diameter of wire is made d/4, then drift velocity becomes
a) V/16

b) 16V
c) V
d) V/4
View Answer

Answer: b
Explanation: Drift velocity is inversely propotional to area of material i.e, V=I/nAq.

6. Which of the following bulbs will have high resistance?
a) 220V, 60W
b) 220V,100W
c) 115V,60W
d) 115V,100 W
View Answer

Answer: a
Explanation: Resistance is directly proportional to sqaure of voltage and inversely proportional to the power.

7. Ohm's law is not applicable to
a) dc circuits
b) high currents
c) small resistors
d) semi-conductors
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Answer: d
Explanation: Ohm's law is not applicable to semi-conductors and insulators.

8. Conductance is expressed in terms of
a) mho
b) mho/m
c) ohm/m
d) m/ohm
View Answer

Answer: a
Explanation: Conductance is the reciprocal of resistance and is expreswsed in terms of mho.

9. Resistivity of a wire depends on
a) length of wire
b) cross section area
c) material
d) all of the mentioned
View Answer

Answer: c
Explanation: Resistivity of a wire is a constant and it depends on the type of material used.

10. In a current-voltage relationship graph of a linear resistor, the slope of the graph will indicate
a) conductance
b) resistance
c) resistivity
d) a constant
View Answer

Answer: a
Explanation: The slope of the graph is the ratio of current to voltage which indicates conductance.