

Circuits : Review-30

- 1) What is a circuit?
- 2) One coulomb = _____ electrons.
- 3) How many electrons are in 350. coulombs? _____ electrons.
- 4) How many coulombs are in 8.1×10^{21} electrons? _____ coulombs.
- 5) The units for current are _____ .
- 6) If 18.0 coulombs of electrons flow through a simple circuit in 3.0 seconds, the current is _____ amps.
- 7) The current in a simple circuit is 5.0 amps. The current flows for 7.0 seconds. The number of coulombs that flow in this time is _____ coulombs.
- 8) The units for energy are _____
- 9) A battery will deliver 36.0 joules of energy to 4.0 coulombs of electrons. The voltage of the battery is _____ volts.
- 10) A cell has a voltage of 1.5 volts. How much energy will be delivered to 64 coulombs of electrons? _____ joules.
- 11) The voltage across a light bulb filament is 120 volts. The current through the filament is 0.60 amps.
 - a) The resistance of the filament is _____ ohms.
 - b) The power rating for the bulb is _____ watts.
- 12) A simple circuit consists of a motor and a 12 volt battery. The resistance of the motor is 80. ohms.
 - a) The current through the motor is _____ amps.
 - b) The number of coulombs that will flow in one minute is _____ .
 - c) The power of the motor is _____ watts.

d) The amount of energy that is supplied by the battery in one minute is _____ joules.

Answers: 1) It is a complete path for electrons to flow., 2) 6.24×10^{18} , 3) 2.18×10^{21} , 4) 1300, 5) amps, 6) 6.0, 7) 35, 8) joules, 9) 9.0, 10) 96, 11)a) 200, b) 72, 12)a) 0.15, b) 9.0, c) 1.8, d) 108.