

Name: _____ Date: _____

Social Security Number: _____

1. An atom that is missing two or fewer electrons from its outer shell will _____.
 - a. freely give up electrons
 - b. be a good conductor
 - c. easily gain electrons
 - d. be a good insulator

2. Current is measured in units called _____.
 - a. joules
 - b. coulombs
 - c. amperes
 - d. volt-amperes

3. Joules are _____.
 - a. units of work
 - b. the potential difference between two points
 - c. the difference between EMF and current
 - d. the rate of current flow

4. All conductors have _____.
 - a. current flow
 - b. some resistance
 - c. EMF
 - d. voltage potential

5. To find voltage when both current and resistance are known, use the formula _____.
 - a. $E = I \times R$
 - b. $E = I \div R$
 - c. $E = \frac{R}{I}$
 - d. $E = I + R$

6. A resistor with a color code of yellow, orange, red, and silver has a tolerance of _____.

7. Ammeters measure _____.
 - a. voltage
 - b. resistance
 - c. current
 - d. power
8. When using an ammeter, it is always important to _____.
 - a. check the polarity of the ammeter
 - b. set the full-scale deflection to be larger than the expected current
 - c. check that the meter is connected in series
 - d. All of the above.
9. If a toaster draws 6.2A of current at 120V, how many kilowatt-hours of energy will be used in 3.5 hours? _____
10. If a battery sends a current of 10A through a circuit for one hour, how many coulombs will flow through the circuit? _____
11. The charged particles of an atom are called _____.
12. Conductors have _____ or less valence electrons.
13. The sum of the difference in potential of all the charges in an electrostatic field is called _____.
14. Electric charge is measured in _____.
15. Resistance is measured in _____.
16. Find the resistance when the voltage is 120V and the current is 6A. _____
17. Give the resistance value and tolerance of a resistor where the color bands are red, yellow, brown, and silver. _____
18. What is the power in a 120V circuit with a current of 12.5A? _____
19. What is the voltage in a 30Ω circuit with a power rating of 480W? _____
20. An ohmmeter is used to measure resistance and check for _____.