

ANSWER KEY

1. The actual process of arc welding began in the early _____ when Sir Davey discovered that an electrical current would jump an air gap.
 - a. 1930's
 - b. 1920's
 - c. 1880's
 - d. 1870's
2. The arc welding _____ is the most important part of the arc welding process.
 - a. cable
 - b. machine
 - c. electrode
 - d. device
3. The purpose of an arc welding machine is to transform electrical energy into heat energy.
 - a. True
 - b. False
4. _____ energy is the type of energy needed for the welding process.
 - a. Heat
 - b. Electrical
 - c. Kinetic
 - d. Passive
5. Ampere is defined as:
 - a. a unit of measure for the movement of electron flow.
 - b. The movement of electrons.
 - c. The force behind the movement of electrons.
 - d. The friction or opposition to electron flow.
6. Current is defined as:
 - a. a unit of measure for the movement of electron flow.
 - b. The movement of electrons
 - c. The force behind the movement of electrons.
 - d. The friction or opposition to electron flow.
7. Resistance is defined as:
 - a. the movement of electrons
 - b. a unit of measure for the movement of electron flow.
 - c. the friction or opposition to electron flow.
 - d. the force behind the movement of electrons.

8. Voltage is defined as:
 - a. the movement of electrons
 - b. a unit of measure for the movement of electron flow.
 - c. the friction or opposition to electron flow.
 - d. **the force behind the movement of electrons.**
9. Which of the following is not part of an arc welding circuit?
 - a. the electrode holder.
 - b. the welding machine.
 - c. **the welding booth.**
 - d. the cable lug.
10. If a welding machine is not properly grounded, the current may enter the welder's body and cause shock.
 - a. **True**
 - b. False
11. The purpose of the insulation around the jaws of an electrode holder is to prevent the metal jaws from coming in contact with the welding table or the work piece.
 - a. **True**
 - b. False
12. If the electrode holder being used becomes hot, the cause may be:
 - a. a loose cable clamp or lead
 - b. the need for a larger electrode
 - c. **A and B**
 - d. Neither A nor B
13. Welding cables are made of thousands of hair-like copper wires.
 - a. **True**
 - b. False
14. You can assume that a welding machine is safe to use unless it has been disconnected from the outlet and a lock has been placed on the circuit box switch.
 - a. True
 - b. **False**
15. The purpose of the ground clamp is to provide a path for current to flow from ground cable to the welding machine.
 - a. **True**
 - b. False

16. If you find that a ground or electrode cable is loose where it is connected to the ground or electrode lug. You should:
- a. Fix it
 - b. Report it to your instructor
 - c. Continue to use it
 - d. None of the above
17. When the electrode holder is forced against the base metal, enough heat energy is produced to cause the electrode and the base metal to melt.
- a. True
 - b. False
18. Always check the cable connections to the ground clamp and electrode holder before you start to weld.
- a. True
 - b. False
19. The purpose of wrapping paper or other material around the cable scoper wires is to prevent moisture from gathering on these wires.
- a. True
 - b. False
20. If you notice a damaged ground or electrode cable, continue to use the welding machine until the instructor tells you that the cables are unsafe.
- a. True
 - b. False