

## PLEASE DO NOT BOOKMARK ANY ANYTIMECE WEBPAGES!

*Our system will remember the last page you viewed when logging out and back in but please DO NOT exit out when taking a test. Your place will NOT be saved.*

### How to take this course.

1. Download and Print the test questions.
2. Login to your account with your ID and password.
3. Viewing your status page, scroll down and click on "[Click here to start this course](#)".



4. Begin viewing the web pages. Refer to your printed test to find the correct answers. The questions track the web pages.

5. As you find the answers, circle them on your printed copy.

6. At the end of each section, you'll enter the quiz which is the same as your printed test. Refer to your circled answers when actually answering the quiz on the web.

7. Upon passing, you will proceed to the next section. If failed to pass, you will be moved to the beginning of that section for more review.

- **Mobile users** – Many current mobile devices are compatible with AnytimeCE and will probably work. If not, use a desktop or laptop computer to complete your course.
- **WA. Electricians** – WA. L&I requires all online test questions and answers to be randomized. Be sure to answer all of the test questions on your printed copy.

**Quiz 1 - WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

1. Electrocutation is the \_\_\_\_\_ leading cause of deaths in the construction industry.
  - 1<sup>st</sup>
  - 2<sup>nd</sup>
  - 3<sup>rd</sup>
  - 4<sup>th</sup>
  - 5<sup>th</sup>
2. There are about \_\_\_\_\_ electrically caused fires per year.
  - 150,000
  - 250,000

- 375,000
- 1 million

3. Which of the following is not caused by electrical accident?
  - A shock occurs when an electrical current passes through your body.
  - You become part of the electrical circuit.
  - Your body is the electrical path for the electrical current.
  - All of the answers provided.
  - None of the answers provided.
4. What is shock?
  - A shock occurs when an electrical current passes through your body.

# Electrical Safety

RV 7.11.19

- You become part of the electrical circuit.
  - Your body is the electrical path for the electrical current.
  - All of the answers provided.
  - None of the answers provided.
5. On typical 120 volt conductors, the “hot” wire is colored \_\_\_\_\_.
- green
  - gray
  - red
  - black
  - white
6. On typical 120 volt conductors, the “neutral” wire is colored \_\_\_\_\_.
- green
  - gray
  - red
  - black
  - white
7. On typical 120 volt conductors, the “ground” wire is colored \_\_\_\_\_.
- green
  - gray
  - red
  - black
  - white
8. A transformer on the power pole \_\_\_\_\_ the voltage to a level that can be used in the structure.
- steps up
  - steps down
  - isolates
  - neutralizes
9. The voltage between L1 and L2 in the structure is \_\_\_\_\_.
- 240
  - 120
  - 0
  - 4800
10. The voltage between L1 and Neutral in the structure is \_\_\_\_\_.
- 240
  - 120
  - 0
  - 4800
11. The voltage between L2 and Neutral in the structure is \_\_\_\_\_.
- 240
  - 120
  - 0
  - 4800
12. The purpose of a circuit breaker is \_\_\_\_\_.
- to protect an individual electrical circuit from excessive amp flow
  - to protect an individual electrical circuit from excessive voltage flow
  - to serve as an ON/OFF switch
  - to serve as an energy saving device
13. What are the number of buss bars in a 240 volt panel box?
- 2
  - 3
  - 4
  - 5
  - 6
14. The neutral buss bar is electrically connected or bonded with the \_\_\_\_\_ buss bar.
- Line 1
  - Line 2
  - ground
  - is not connected to any other buss bar
  - is connected to all the other buss bars
15. The neutral and ground buss bars are electrically the same when connected by a bonding wire.
- True
  - False
16. The ground wire on an electrical drill is connected to \_\_\_\_\_.
- the metal case of the drill
  - the “incoming side of the black or hot wire
  - the “outgoing” side of the white wire
  - the electric motor housed in the drill casing
17. When an electrical appliance is overused and shorts out, \_\_\_\_\_ may disengage internally and touch the case of the unit.
- the black wire
  - the white wire

# Electrical Safety

RV 7.11.19

- the green wire
  - the black and white wires
  - the black, white and green wires
18. In a motor burnout, the electrical current is returned to the panel box by traveling down \_\_\_\_\_.
- the white wire
  - the black wire
  - the green wire
  - the white or green wires
  - the person holding the drill
19. After returning to the wall receptacle, the current \_\_\_\_\_ and trips the breaker effectually turning off power.
- increases
  - decreases
  - stays the same
20. An electrical drill with the "ground" prong removed shorts out to the drill's case. The electrical ground now is \_\_\_\_\_.
- the black wire
  - the white wire
  - the green wire
  - the person holding the drill
21. What can happen to a worker after receiving an electrical shock?
- They can fall off a ladder and become injured.
  - They can develop nerve damage.
  - They can suffer horrible burns.
  - They can die.
  - All of the answers provided.
- painful red skin but not permanent damage
  - total skin depth destroyed which requires grafting
  - blisters but the skin will regenerate to normal
3. A 2<sup>nd</sup> degree burn can result in \_\_\_\_\_.
- underlying muscle damage
  - painful red skin but not permanent damage
  - total skin depth destroyed which requires grafting
  - blisters but the skin will regenerate to normal
4. A 3<sup>rd</sup> degree burn can result in \_\_\_\_\_.
- underlying muscle damage
  - painful red skin but not permanent damage
  - total skin depth destroyed which requires grafting
  - blisters but the skin will regenerate to normal
5. A 4<sup>th</sup> degree burn can result in \_\_\_\_\_.
- underlying muscle damage
  - painful red skin but not permanent damage
  - total skin depth destroyed which requires grafting
  - blisters but the skin will regenerate to normal
6. What are the factors that contribute to the severity of an electrical shock injury?
- The level of electrical voltage.
  - The amount of electrical current.
  - The length of time the current flows through the body.
  - The path the electricity takes through the body.
  - All of the answers provided.

**Quiz 2 - WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

1. The number of fatal falls in a year is about \_\_\_\_\_.
- 1,000
  - 5,000
  - 10,000
  - 20,000
  - 25,000
2. A 1<sup>st</sup> degree burn can result in \_\_\_\_\_.
- underlying muscle damage
7. Which voltage level is considered to be safe?
- 24
  - 120
  - 240
  - 480
8. Electrocutation and death can result when the electrical current flows through one's body and exceeds \_\_\_\_\_.

# Electrical Safety

RV 7.11.19

- 6 mA
  - 10 mA
  - 16 mA
  - 50 mA
9. What mathematical formula is known as the Ohm's Law?
- Amps = volts x resistance
  - Amps = volts divided by resistance
  - Amps = resistance divided by ohms
  - Amps = resistance x volts
10. If experiencing an electrical shock, the higher the resistances of your body, the \_\_\_\_\_ the amp flow and the \_\_\_\_\_ severe of a shock.
- lower – less
  - lower – more
  - higher – more
  - higher – less
11. The 1<sup>st</sup> step in decreasing the severity of an electrical shock is \_\_\_\_\_.
- to use protective gloves, clothes and boots
  - to keep your hands dry
  - to stand on a dry surface
12. The 2<sup>nd</sup> step in decreasing the severity of an electrical shock is \_\_\_\_\_.
- to use protective gloves, clothes and boots
  - to keep your hands dry
  - to stand on a dry surface
13. The 3<sup>rd</sup> step in decreasing the severity of an electrical shock is \_\_\_\_\_.
- to use protective gloves, clothes and boots
  - to keep your hands dry
  - to stand on a dry surface
14. If the current flowing through you is less than \_\_\_\_\_, you can let go of the "hot" wire.
- 6 mA
  - 10 mA
  - 16 mA
  - 50 mA
15. If one has to test or work on "live" equipment, it is safer to use \_\_\_\_\_.
- one hand
  - both hands
16. The electrical flow (current) to an electrical motor on the black or hot wire is \_\_\_\_\_ the electrical flow from the motor returning to neutral.
- greater than
  - less than
  - equal to
  - unknown since it depends on the type of motor
17. GFCI is an abbreviation for \_\_\_\_\_.
- Ground Fault Circuit Interrupter
  - Gross Fatal Current Inducer
  - Grounded Flow Cardiac Injury
  - Generated Faulty Current Injury
18. The GFCI opens up the electrical flow in the "hot leg" if there is a current imbalance of \_\_\_\_\_ or more.
- 0.1 mA
  - 0.5 mA
  - 1.0 mA
  - 5.0 mA
19. A GFCI will work only if a ground wire is present.
- True
  - False
20. A portable QFCI should be tested \_\_\_\_\_.
- before each use
  - daily
  - weekly
  - monthly
  - yearly

**Quiz 3- WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

1. There are about \_\_\_\_\_ fires annually.
- 50,000
  - 100,000
  - 250,000
  - 1 million
  - 1-1/2 million
2. A fire extinguisher that has a/an \_\_\_\_\_ label can be used on electrical fires.
- A
  - B
  - C

# Electrical Safety

RV 7.11.19

3. A fire extinguisher that has a/an \_\_\_\_\_ label can be used on ordinary combustible fires.
- A
  - B
  - C
4. A fire extinguisher that has a/an \_\_\_\_\_ label can be used on flammable liquid fires.
- A
  - B
  - C
5. The most effective way to eliminate the risk of an electrical shock is to de-energize the equipment.
- True
  - False
6. A lockout can be placed on \_\_\_\_\_ to de-energize electrical equipment.
- a panel box
  - a breaker
  - a disconnect box
  - all of the answers provided
7. Some lockout devices allow up to \_\_\_\_\_ different padlocks to be used to secure a system.
- 3
  - 4
  - 6
  - 10
8. Prior to locking out a breaker, check to make sure that the breaker clearly indicates if it is in the open or closed position.
- True
  - False
9. In the panel box, each breaker should be correctly labeled. The label should be \_\_\_\_\_.
- in ink
  - typed
  - written in English
  - written in Spanish
  - legible and durable
10. \_\_\_\_\_ remove a lock on a lockup other than your own.
- Never
  - Sometimes you may
- If no one else is in the area then one may
  - Without a doubt you may
11. The best place to keep the key for your lockout is \_\_\_\_\_.
- on a peg near the disconnect
  - in the lock
  - with your supervisor
  - in your pocket
12. When a voltage pen is near a live electrical wire or source, \_\_\_\_\_.
- the pen tip lights up
  - the pen emits an audible sound
  - both of the answers provided
  - neither of the answers provided
13. Prior to using a voltage pen, it is recommended that one checks the pen using a known electrical source.
- True
  - False
14. Which of the following is NOT considered good lighting:
- floor mounted spot lights
  - hand held flash lights
  - overhead lights
  - clamp-on lights
- 
15. A circuit tester was inserted into a receptacle with the above display: This means \_\_\_\_\_.
- Open Ground
  - Open Neutral
  - Hot/Ground reversed
  - Hot/Neutral reversed
  - Correct
- 
16. A circuit tester was inserted into a receptacle with the above display: This means \_\_\_\_\_.
- Open Ground
  - Open Neutral
  - Hot/Ground reversed
  - Hot/Neutral reversed
  - Correct

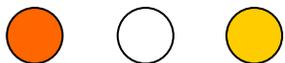
# Electrical Safety

RV 7.11.19



17. A circuit tester was inserted into a receptacle with the above display: This means \_\_\_\_\_.

- Open Ground
- Open Neutral
- Hot/Ground reversed
- Hot/Neutral reversed
- Correct



18. A circuit tester was inserted into a receptacle with the above display: This means \_\_\_\_\_.

- Open Ground
- Open Neutral
- Hot/Ground reversed
- Hot/Neutral reversed
- Correct

19. On a receptacle, the white wire should be connected to the \_\_\_\_\_ terminal.

- Green Hexagonal terminal screw
- nickel or light colored terminal
- brass colored terminal

20. On a receptacle, the black wire should be connected to the \_\_\_\_\_ terminal.

- Green Hexagonal terminal screw
- nickel or light colored terminal
- brass colored terminal

21. On a receptacle, the green or bare copper wire should be connected to the \_\_\_\_\_ terminal.

- green hexagonal terminal screw
- nickel or light colored terminal
- brass colored terminal

## **Quiz 4- WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

1. Prior to using an extension cord, examine the cord for \_\_\_\_\_.

- a missing ground pin
- a damaged outer jacket
- damaged male/female ends
- all of the answers provided

2. When repairing an extension cord with wears on the outer coating, \_\_\_\_\_.

- repair with a single wrapping of electrical tape
- repair with a double wrapping of electrical tape
- repair with a triple wrapping of electrical tape
- do not attempt to repair with electrical tape since electrical tape isn't approved for this application

3. Extension cords can be \_\_\_\_\_.

- fastened in place with staples
- hung from nails
- suspended by a wire
- none of these objects should be used on extension cords

4. Outer coverings of extension cords should be marked with \_\_\_\_\_.

- SO
- SJTW
- Either SO or SJTW
- Nothing, markings aren't required

5. An extension cord should have \_\_\_\_\_ wires, with a minimum size of \_\_\_\_\_.

- 2 – 16
- 3 – 14
- 2 – 12
- 3 – 12

6. A wire size of No. 14 will carry \_\_\_\_\_ at 120 Volts.

- 10 amps
- 15 amps
- 20 amps
- 25 amps

7. The safest way to remove an extension cord from a receptacle is to \_\_\_\_\_ and pull.

- grasp the plug end
- grasp near the end of the cord
- grasp anywhere along the cord

8. Using an extension cord that is coiled may result in \_\_\_\_\_.

- an electromagnetic force field
- excessive voltage drop
- over-heating

# Electrical Safety

RV 7.11.19

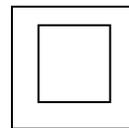
- a tripping hazard
9. A GFCI should always be used \_\_\_\_\_.
- in wet areas
  - when electricity is present
  - if using 240 volts
  - on live circuits
10. Grounding with a flexible cord by using a cord and plug should be \_\_\_\_\_.
- a temporary application
  - accessible
  - both of the answers provided
  - neither of the answers provided
11. Flexible cords should NOT \_\_\_\_\_.
- run through holes in walls, ceilings or floors
  - run through doorways or windows
  - be hidden in ceilings, floors, conduits or other raceways
  - all of the answers provided
5. When working around all electrical equipment, there should be \_\_\_\_\_.
- sufficient access around the work space
  - safety barriers in place
  - locked gates
  - key access
6. Coming into contact with power lines can account for \_\_\_\_\_ of all electrocutions.
- 10 %
  - 35 %
  - 50 %
  - 75 %
7. Aluminum ladders should \_\_\_\_\_ be used near electrical or power lines.
- never
  - occasionally
  - always

**Quiz 5 - WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

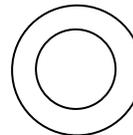
1. Power strips are for \_\_\_\_\_ use only. They should not be used to power \_\_\_\_\_.
- temporary – appliances
  - long term – electronic equipment
  - permanent – refrigerators
2. All pull and junction boxes need to be provided with \_\_\_\_\_.
- proper covers
  - plastic covers
  - steel covers
  - galvanized covers
3. Conductors entering cutout boxes should be \_\_\_\_\_.
- No. 12 or smaller
  - 3 wires
  - colored black
  - protected from abrasion
4. Receptacles should be provided with \_\_\_\_\_.
- cover plates
  - labels

8. A double insulated tool has \_\_\_\_\_.
- 2 layers of insulation around the internal electrical parts
  - 2 grounding plugs
  - 2 white wires connected to the end of the cord
  - 2 electrical plugs on the end of the cord

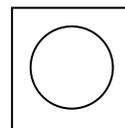
9. The double insulated symbol is displayed as what illustration?



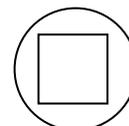
- A double square



- A double circle



- Square with circle



# Electrical Safety

RV 7.11.19

- Circle with square
10. A classified hard hat that will offer the greatest electrical protection is \_\_\_\_\_.
- Class E
  - Class G
  - Class C
11. The type of hard hat that will withstand the greatest force is \_\_\_\_\_.
- Type I
  - Type II
  - either Type I or II since they have the same rating
12. What is the best method to determine the electrical rating of a hard hat?
- Look at the packing box.
  - Look at the manufacture's catalog information.
  - Look at the label inside the hard hat.
  - All hard hats have the same ratings.
13. The best type of paint to use on a hard hat is \_\_\_\_\_.
- oil based acrylic
  - water based latex
  - spray paint
  - none
14. Noise levels are measured in \_\_\_\_\_.
- decibels
  - ohms
  - volts
  - amps
  - none of the answers provided
15. Normal speech is usually at \_\_\_\_\_.
- 120 db
  - 100 db
  - 80 db
  - 65 db
16. The maximum exposure at 100 db without hearing loss is \_\_\_\_\_.
- 1 hour
  - 2 hours
  - 3 hours
  - 4 hours
  - 5 hours

17. Ear plugs can reduce noise levels by \_\_\_\_\_ decibels.

- 10 to 20
- 20 to 30
- 35 to 45
- 50 to 60

18. Boots and shoes that are electrical shock resistant are marked on the tongue with these letters: \_\_\_\_\_.

- ESR
- PS
- ES
- EH
- SR

## **Quiz 6 - WA Electricians: Answer all questions - 50% of the following will appear in random order with random answers -as required by WA LNI**

1. An arc flash occurs when electrical current travels through the air between two conductors.
- True
  - False
2. Annually, how many people are admitted to burn centers with severe arc flash burns?
- 1,000
  - 2,000
  - 3,000
  - 5,000
  - Over 10,000
3. In an arc flash, the air expands rapidly with a resulting pressure that can reach \_\_\_\_\_.
- 10 psi
  - 50 psi
  - 100 psi
  - 200 psi
4. An arc flash is rated by the amount of energy that can be produced. The highest rating for an arc flash is categorized as \_\_\_\_\_.
- 1
  - 2
  - 3
  - 4
  - Dangerous

# Electrical Safety

RV 7.11.19

5. Arc flash gloves are rated and labeled by color coded tags. The maximum AC/DC used for a Green tagged glove is \_\_\_\_\_.
- 1000 / 1500
  - 7500 / 11250
  - 17000 / 25500
  - 26500 / 39750
6. The 1<sup>st</sup> step in an electrical rescue is \_\_\_\_\_.
- to find the breaker or disconnect and turn the power off
  - to find a non-conductive handle or stick to remove the electrical cord/wire from the victim
  - to call 911 and then apply CPR if needed
  - to cover with a blanket to help warm the victim if conscious or continue with CPR if unconscious
7. The 2<sup>nd</sup> step in an electrical rescue is \_\_\_\_\_.
- to find the breaker or disconnect and turn the power off
  - to find a non-conductive handle or stick to remove the electrical cord/wire from the victim
  - to call 911 and then apply CPR if needed
  - to cover with a blanket to help warm the victim if conscious or continue with CPR if unconscious
8. The 3<sup>rd</sup> step in an electrical rescue is \_\_\_\_\_.
- to find the breaker or disconnect and turn the power off
  - to find a non-conductive handle or stick to remove the electrical cord/wire from the victim
  - to call 911 and then apply CPR if needed
  - to cover with a blanket to help warm the victim if conscious or continue with CPR if unconscious
9. The 4<sup>th</sup> step in an electrical rescue is \_\_\_\_\_.
- to find the breaker or disconnect and turn the power off
  - to find a non-conductive handle or stick to remove the electrical cord/wire from the victim
- to call 911 and then apply CPR if needed
  - to cover with a blanket to help warm the victim if conscious or continue with CPR if unconscious