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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 you failed to pass, you will be moved back 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.

UPC TABLE 5-1 ¹ FIRST HOUR RATING											
Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
Number of Bedrooms	1	2	3	2	3	4	5	3	4	5	6
First Hour Rating, ² Gallons	42	54	54	54	67	67	80	67	80	80	80

¹ The first hour rating is found on the "Energy Guide" Label
² Non-storage and solar water heaters shall be sized to meet the appropriate first hour rating as shown in the table.

Quiz 1

Question 1: Size of the water heater for a house with 3 bathrooms and 4 bedrooms.

- 42
- 54
- 67
- 80

- 54
- 67
- 80

Question 2: Size of the water heater for a house with 1 bathroom and 3 bedrooms.

- 42

Question 3: Size of the water heater for a house with 2 bathrooms and 5 bedrooms.

- 42
- 54
- 67
- 80

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Question 4: Size of the water heater for a house with 3 bathrooms and 6 bedrooms.

- 42
- 54
- 67
- 80

Question 5: Size of the water heater for a house with 1 bathroom and 2 bedrooms.

- 42
- 54
- 67
- 80

Question 6: Size of the water heater for a house with 1-1/2 bathrooms and 3 bedrooms.

- 42
- 54
- 67
- 80

Question 7: Size of the water heater for a house with 2 bathrooms and 3 bedrooms.

- 42
- 54
- 67
- 80

Question 8: Which code is used for combustion air and installation of all vents and their connectors?

- 2006 UPC
- 2003 UPC
- Uniform Mechanical Code
- Fuel Gas Combustion Code

Question 9: No water heater shall be hereafter installed which does not comply in ____ respects with the type and model of each size thereof approved by the Authority Having Jurisdiction.

- all
- some
- most
- a few

Question 10: The national standard used to size the minimum diameter of a vent for a Category 1 appliance is:

- 2009 UPC
- NFPA 54:3.3.7
- WAC Chapter 52
- 2011 NEC

Question 11: A chimney may have more than 1 passageway.

- Yes
- No

Question 12: A chimney is required to be vertical.

- Yes
- No

Question 13: A factory-built chimney is required to be comprised of listed-only, factory-built components.

- Yes
- No

Question 14: A field-constructed masonry chimney must use Portland Cement that has re-enforcing bars.

- Yes
- No

Question 15: A field-installed flexible metal flue liner is considered to be a metal chimney.

- Yes
- No

Question 16: Combustible materials do not include flame-proofed, fire-retardant treated, or plastered material.

- True
- False

Question 17: Direct-vent appliances are required to be constructed and installed so that all flue gases are discharged to the outside atmosphere.

- Yes
- No

Question 18: Direct-vent appliances are required to receive all air for combustion directly from the outside atmosphere.

- Yes
- No

Question 19: A direct-vent appliance must obtain a percentage of its combustion air from the interior of the house.

- Yes
- No

Question 20: A flue collar is that portion of an appliance designed for the attachment of a draft hood, vent connector, or venting system.

- Yes
- No

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Question 21: It is permitted to use Type B gas vents with Category II, III, or IV gas appliances.

- Yes
- No

Question 22: It is permitted to use Type L vent material on appliances listed for use with Type B gas vents.

- Yes
- No

Question 23: The Type L Pellet Vent is rated for flue temperatures exceeding 570° F.

- Yes
- No

Question 24: An indirect-fired water heater consists of a storage tank equipped with an internal or external heat exchanger to transfer heat from an external source to heat potable water.

- Yes
- No

Question 25: A vent is a passageway used to convey flue gases from gas -fueled equipment, or their vent connectors, to the outside atmosphere.

- Yes
- No

Question 26: A vent connector is the pipe or duct that connects an electric appliance to a vent or chimney.

- Yes
- No

Question 27: A venting system is a continuously open passageway to the outside atmosphere for the purpose of obtaining air for combustion.

- Yes
- No

Question 28: A water heater is an appliance that supplies hot water for domestic and commercial purposes.

- Yes
- No

Question 29: Which activities can be performed on a water heater without a permit?

- maintenance
- installation

- removal
- replacement

Question 30: An inspection of a chimney or vents must be made after installation before these vents or their parts are covered or concealed.

- Yes
- No

Question 31: When must a final water heater inspection be made by the AHJ?

- When the work authorized by the permit is installed.
- When the installation has been installed to code.
- Prior to covering or concealing any of the work.
- All of the answers provided.

Question 32: It is permitted to install a B-vent style water heater in a bathroom if it is installed in the linen/towel closet and is not visible.

- True
- False

Question 33: A water heater installed in a bedroom must meet which of the following requirements?

- it must be located in a closet exclusively for the use of the water heater
- the closet must have a combustion air vent obtaining air from outside
- the closet must have self-closing hinges on the door
- the closet must have gaskets around the entire door
- all of the answers provided

Question 34: A water heater must be located as close as practicable to a chimney or gas vent.

- True
- False

Question 35: Listed water heaters are NOT always required to be installed in accordance with their manufacturer's instructions.

- True
- False

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Question 36: All unlisted water heaters shall be installed with a clearance of at least 12 inches on all sides and rear.

- True
- False

Question 37: All water heater installations are to be provided with over-pressure protection by means of an approved listed device.

- True
- False

Question 38: Only unlisted water heater installations shall be provided with over-temperature protection.

- True
- False

Question 39: Installation of temperature, pressure, and vacuum-relief devices and automatic gas shutoff devices, shall be in accordance with the terms of their listings and NOT the manufacturer's instructions.

- True
- False

Question 40: A shutoff valve shall be placed between the relief valve and the water heater, or on discharge pipes between these valves and the atmosphere.

- True
- False

Question 41: The Btu hourly discharge capacity or the rated steam relief capacity of the pressure relief device shall NOT be less than the input rating of the water heater.

- True
- False

Quiz 2

Question 1: Prior to installation of an oil-burning water heater, the AJH must approve its location.

- True
- False

Question 2: The reference code for an oil-fired water heater is:

- Uniform Mechanical Code
- 2009 UPC
- NFPA 31
- Flue Gas Code

Question 3: An indirect-fired water heater must conform to which of the following Codes?

- ASME Boiler/ Pressure Vessel Code
- Uniform Mechanical Code
- 2009 UPC

Question 4: Each indirect-fired water heater shall have a label that meets _____ requirements.

- UPC
- UMC
- ASHREA
- ASME
- RSES

Question 5: The pressure relief on a hot water boiler connected to an indirect-fired water heater is limited to a maximum of _____ psig.

- 10
- 20
- 30
- 40
- 50

Question 6: The transfer medium for an indirect-fired water heater is potable water or a fluid with a toxicity rating of:

- Class of 1
- Class of 2
- Class of 3
- NON-Classified

Question 7: The toxicity rating is determined from the following:

- Merck Chemical Digest
- US Encyclopedia of Chemistry
- Pharmacy Digest
- Clinical Toxicology

Question 8: Questions about combustion air and ventilation requirements are answered in:

- 2009 UPC
- Mechanical Code
- Fuel Gas Code
- NFPA 31

Question 9: The Authority Having Jurisdiction always requires the use of an approved dielectric insulator on the water piping connections of water heaters and related water heating equipment.

- True
- False

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Question 10: In seismic Category F water heaters, they are NOT required to be anchored or strapped.

- True
- False

Question 11: Upon installation, a water heater shall be strapped at points within its upper third and lower third areas.

- True
- False

Question 12: At the lower strapping point of a water heater, the strapping shall be at minimum distance of 4 inches above the controls.

- True
- False

Question 13: A water heater supported from the ground shall rest on level concrete, or other approved base, with a height of at least 3 inches above the surrounding ground level.

- True
- False

Question 14: When a water heater is located in an attic, where damage may result from a leak, a watertight pan without a drain shall be installed beneath the water heater.

- True
- False

Question 15: A discharge pipe from a pressure relief valve is permitted to discharge into the water heater drip pan.

- True
- False

Question 16: A non-direct-vent type gas appliance installed in a beauty shop where flammable aerosol sprays are used, shall be located in a separate equipment room that has outside combustion and dilution air.

- True
- False

Question 17: Process air shall be provided for comfort and proper working conditions for personnel.

- True
- False

Question 18: Open flame gas water heaters are allowed near facilities that transmit flammable vapors.

- True
- False

Question 19: A gas furnace or water heater in a residential garage, separate from the living space, shall be installed so that all burners and the ignition system are at least _____ inches above the floor, unless they are listed as flammable vapor ignition resistant.

- 12
- 16
- 18
- 24
- 28

Question 20: Installation of a water heater in a residential garage is permitted when it is installed at the proper height and is protected against damage from a moving vehicle.

- Yes
- No

Question 21: When is it permitted to install a water heater at floor level in a residential garage?

- Never
- Only when the garage is used for storage and not for parking cars.
- When the water heater is located in a separate room, not accessible from the garage with air supply outside the garage.
- Always

Question 22: When installing gas equipment in an underground parking facility, what code needs to be followed?

- NFPA 31
- NFPA 62
- NFPA88A
- Mechanical Code
- None of the answers provided

Question 23: When is a gas-fired water heater allowed in a repair garage?

- NEVER
- When the heater is located in a detached room with 1-hour fire walls
- Any time
- Within regulations

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Question 24: In a repair garage, a water heater is permitted to be installed if it is at least _____ feet above the floor.

- 8
- 10
- 12
- Never - there are no exceptions

Question 25: Gas-fired equipment installed in an aircraft hangar must conform to the following code:

- NFPA 409
- NFPA 31
- NFPA 65
- NFPA 88A

Question 26: When is it required to use guard rails on equipment located outside?

- Only near traffic areas
- Never
- Always
- On Class 2 arterial roads

Question 27: By code, which of the following must be left at the job site by the installation crew upon completing a water heater installation?

- Manufacturer's instructions
- Phone number of installation company
- Copy of invoice
- Business cards for installation company

Question 28: Can indoor equipment be installed outdoors?

- No
- Yes
- Maybe, if special protection is furnished for the equipment

Question 29: On rooftops, the minimum clearance between a service panel and the wall of the enclosure is _____ inches.

- 16
- 24
- 30
- 36
- 48

Question 30: At least _____ feet of clearance shall be available between any part of the equipment and the edge of a roof, and the equipment shall have guard rails at least 42 inches high.

- 3
- 6
- 8
- 10

- 12

Question 31: On a roof top, the electrical disconnect must be:

- A. readily accessible
- B. within sight
- C. both A and B
- D. neither A nor B

Question 32: On roof top equipment, a 120-volt, grounded receptacle must be supplied.

- True
- False

Question 33: Buildings over _____ feet in height shall have an inside means of access to the roof, unless other means of access are acceptable to the Authority Having Jurisdiction.

- 10
- 15
- 20
- 28

Question 34: The minimum trap door size shall be _____ inches.

- 22 x 24
- 24 x 30
- 28 x 36
- 32 x 36

Question 35: Permanent lighting shall be provided at the roof access, with a switch located inside the building near the access leading to the roof.

- True
- False

Question 36: Attic access shall have a passageway of at least _____ inches.

- 22 x 24
- 22 x 30
- 28 x 36
- 32 x 36

Question 37: If the attic is under 6 feet in height, the distance to the appliance shall not exceed _____ feet.

- 15
- 20
- 28
- 30

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Question 38: The width of a passageway in an attic must be at least _____ inches.

- 16
- 18
- 24
- 28
- 32

Question 39: In an attic, the size of a level platform in front of a gas appliance must be at least _____ inches.

- 24 x 24
- 30 x 30
- 32 x 32
- 36 x 36

Question 40: In an attic, it is required that a 120-volt receptacle and a lighting fixture be near the appliance.

- True
- False