EBPHI NHIE - Quiz Questions with Answers

Domain 1: Property and Building Inspection/Site Review

1.

Floor furnaces may NOT be located:

- **In doorways**
- In kitchens
- More than 6" from a side wall
- In crawlspaces

Correct answer: In doorways

Floor furnaces are not a commonly found heating source. They should not be located in bathrooms, doorways, landings, passageways, or bedrooms.

2.

The most likely cause of leakage when steel straps are used on copper piping is:

The effects of galvanic corrosion

Crimping in the copper piping

Vibration due to a loose connection

The effects of a pozzolanic reaction

Correct answer: The effects of galvanic corrosion

Galvanic corrosion occurs when two dissimilar metals come in contact with each other, most commonly when water is introduced.

3.

Which valve allows air to enter a system to prevent water from being siphoned back into the potable water system?

Vacuum breaker

Back-siphonage

Air gap

Pressure reducing valve

Correct answer: Vacuum breaker

Vacuum breakers are often found at the exterior hose bib, and they prevent back-siphonage from contaminating the potable water system.

An air gap can prevent back-siphonage as well; however, it is a gap between the opening of a faucet and the flood rim of a fixture or drain. A pressure reducing valve is typically found on the main water line into the building and regulates the incoming water pressure to the home.

4.

What two types of flashing are required where a sloped roof meets a wall?

Step and kickout flashings

Hip and ridge flashings

Wall and slope flashings

Edge and valley flashings

Correct answer: Step and kickout flashings

Step flashing is used where the roof area intersects the vertical side wall. Step flashing is laced into each course of the roofing material and provides weather protection at the intersection. Kickout flashing is installed at the roof edge to provide a means to "kick" the water moving down the roof into the gutter system, preventing water from penetrating the wall covering.

5.

Stairways are required to:

Be a minimum of 36” wide

Be illuminated if there are more than three steps

Have a grippable handrail if there is more than one step

Have treads at least 8” deep

Correct answer: Be a minimum of 36” wide

The width is the requirement above the handrail and does not include spiral staircases.

Illumination of staircases and landings is required regardless of the number of steps. Grippable handrails are required when four or more risers exist. Minimum tread depths are 10".

6.

All the following panel manufacturers are considered a latent fire hazard EXCEPT:

Square D

Federal Pacific Stab-Lok

Bulldog Pushmatic

Zinsco

Correct answer: Square D

Federal Pacific Stab-Lok, Bulldog Pushmatic, and Zinsco panels are known as latent fire hazard panels, and they are required by most Standards Of Practice to be identified in the home inspection report as a potential safety concern.

7.

What is air conditioning capacity measured in?

Ton

BTU

R-Value

U-Value

Correct answer: Ton

Ton is often seen in reference to the measurement of air conditioning capacity needed to remove heat at a rate of 12,000 BTUs per hour.

British Thermal Unit (BTU) is used to express one unit of heat energy. R-Value is the measurement of thermal resistance, and it is used to measure the ability of insulation to resist heat traveling through it. U-Value is the unit of measurement used to describe heat transfer through a material.

8.

Tension is:

Two opposing forces pulling an object apart

A pushing force applying inward force on an object

The unaligned forces acting in opposite directions

The twisting force applied to an object

Correct answer: Two opposing forces pulling an object apart

Compression is a pushing force applying inward force on an object. Shear is the unaligned forces acting in opposite directions. Torsion is the twisting force applied to an object.

9.

Which device will change the volume of airflow of the air distribution system within the building?

Diffuser

Plenum ducts

Trunk ducts

Branch ducts

Correct answer: Diffuser

Diffusers control the volume of air flowing into a room.

The supply and return plenums sit on either side of the air handler (heat exchanger and fan side, respectively). Trunk ducts (both supply and return) serve as the central distribution line. Branch ducts branch from the trunk ducts.

10.

Which one of the following is true regarding concrete roofing tiles?

They are brittle and crack easily if walked on

Tin is the most common flashing material used with concrete tile

They are usually between 1" and 1 1/2" thick

It is typically acceptable to apply new concrete or clay tiles over the old concrete tiles

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Correct answer: They are brittle and crack easily if walked on

Home inspectors should use caution when deciding to walk on a concrete tile roof.

Lead-coated copper flashing is the most common material used with concrete tile. Tile thickness ranges from 1/4" to 3/4". It is not acceptable to install a second layer of concrete or clay tiles.

11.

Untreated dimensional wood joist clearance to soil is:

- **18"**
- 12"
- 8"
- 6"

Correct answer: 18"

Clearance of the ground is dependent upon the thickness of the untreated dimensional wood.

Pressure treated or naturally durable wood will have different clearance requirements.

12.

Downspouts should be found a minimum of every ____’ of length of gutter.

35'–40'

15'–20'

8'–12'

50'+

Correct Answer: 35'–40'

This is a generally accepted rule.

13.

Shear is:

The unaligned forces acting in opposite directions

A pushing force applying inward force on an object

Two opposing forces pulling an object apart

The twisting force applied to an object

Correct answer: The unaligned forces acting in opposite directions

Compression is a pushing force applying inward force on an object. Tension is two opposing forces pulling an object apart. Torsion is the twisting force applied to an object.

14.

What style of roof is also known as a barn roof?

Gambrel

Hip

Gable

Shed

Correct answer: Gambrel

Hip-style roofs have a sloped face on all sides. Shed-style roofs slope down in one direction. Gable-style roofs come together at the center and slope down on either side of the center point.

15.

How many inches of clearance to grade should wood siding have?

6" or greater

2" or greater

There is no recommendation

12"

Correct answer: 6" or greater

Manufacturers will determine the exact clearance to grade for individual products. However, industry standards recommend a minimum of 6" or greater clearance to grade for wood-based siding products. A clearance of 2" or greater is recommended for hard surfaces around the building.

16.

A small opening near the top of a plumbing fixture to prevent water from escaping is referred to as what?

Overflow

Air gap

Flood rim

Fill valve

Correct answer: Overflow

The overflow is a small opening located near the top of the basin, intended to prevent water from flowing over the flood rim.

A flood rim is the point at which a plumbing fixture (such as a sink or tub) overflows. An air gap is the vertical separation between the water inlet and a contamination source. The fill valve is the mechanism in a toilet that refills the tank after flushing.

17.

Drainage system components include all EXCEPT:

Capillary action

Gutters and downspouts

Swales

Underground drains

Correct answer: Capillary action

Capillary action describes the forces interacting between liquids and a surface (also referred to as surface tension).

Gutters and downspouts are a means to assist in proper roof water runoff away from the building. Swales are depressions formed around a building to provide a means for drainage. Underground drains provide a connection for the downspout to carry water to a pit drain, sewer line, or other storm drain system.

18.

What is a drip loop?

The downward loop formed to create a capillary break so as to not allow water to enter the masthead

The conductors connecting the service drop conductors to the main disconnect

The conductors provided by the utility provider to supply power

The underground conductors provided by the utility provider to supply power

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Correct answer: The downward loop formed to create a capillary break so as to not allow water to enter the masthead

Using the proper terminology when describing components is important for clarification for the service professionals hired to repair called-out items.

Service entrance conductors are the conductors connecting the service drop conductors to the main disconnect. Service drop conductors are the conductors provided by the utility provider to supply power. Service laterals are the underground conductors provided by the utility provider to supply power.

19.

Which of the following refers to the mechanism in a toilet that refills the tank after flushing?

Fill valve

Flood rim

Overflow

Air gap

Correct answer: Fill valve

The fill valve (also referred to as a ballcock assembly) is the mechanism in a toilet that refills the tank after flushing.

A flood rim is the point at which a plumbing fixture (such as a sink or tub) overflows. The overflow is a small opening located near the top of the basin, intended to prevent water from flowing over the flood rim. An air gap is the vertical separation between the water inlet and a contamination source.

20.

How many, and what size, circuits are required in a kitchen for countertop receptacles?

Two 20 amp, 120 volt

One 20 amp, 120 volt

Two 15 amp, 120 volt

One 30 amp, 240 volt

Correct answer: Two 20 amp, 120 volt

Minimum requirements for kitchens require two 20 amp, 120 volt circuits dedicated to countertop appliances, and it should be reported if there are not enough circuits identified for a modern kitchen.

240 volt circuits are dedicated to servicing larger appliances (e.g., oven, dryer, etc.).

21.

Which of the following is the difference between wood shingles and wood shake?

Shingles are consistent in size, while shake is hand-split

Shingles can only be used as a siding material, while shake can only be used as a roofing material

Shingles are larger, and shake is smaller

Shake requires layering, but shingles do not

Correct answer: Shingles are consistent in size, while shake is hand-split

Shingles are consistent in size because they are usually manufactured by sawing wood, whereas shake is manufactured by splitting the wood. Both can be used as a siding or roofing material.

22.

Which of the following wire sizes is the largest?

6 AWG

8 AWG

10 AWG

14 AWG

Correct answer: 6 AWG

The American Wire Gauge (AWG) numbers are used to identify the diameters of electrical wire. 14 gauge wire is smaller than 6 gauge wire, as the designation is based on the manufacturing of the wire and not the actual diameter size.

23.

All of these are part of the structural portion of a building EXCEPT:

Wythe

Piles

Piers

Spread footing

Correct answer: Wythe

Wythe describes a course of masonry that is one unit in thickness.

Piles and piers are used to support a foundation. Both piles and piers can be installed underground or on the surface (although a pad footing of the appropriate size should be installed under a pier). A spread footing (or ribbon footing) is concrete poured into a trench, and it typically contains reinforcing steel.

24.

If a structure is less than 5’ from the property line, what is typically required?

1-hour fire resistive construction and no openings

A means of egress from the building

A variance from the local code authority

Nothing; the setback must be 6’

Correct answer: 1-hour fire resistive construction and no openings

Fire-resistive construction can be a combination of different materials constructed together to provide fire resistance for the building and/or its occupants. Fire ratings of components of a home that a home inspector is required to report on are the requirements between a garage and a living area.

Means of egress are necessary to understand for occupant safety, but they do not apply to this question. In most cases, the home inspector will be unaware of, and is not required to report on, variances allowed by the local jurisdiction.

25.

The most likely place to find a tempering valve would be at the:

Water heater or boiler

Furnace

Panelboard

Exterior

Correct answer: Water heater or boiler

Tempering valves are located at the water heater or boiler, usually in a combination heating system. The valve allows the water heater or boiler to operate at higher temperatures (usually 140+ degrees Fahrenheit) in order to fulfill the heating and plumbing needs; yet it can be adjusted to "temper" the potable hot water, preventing scalding temperatures at faucets or fixtures.

26.

Slate tile roofs should be replaced when:

The flashing, fasteners, or underlayment have failed

It is over 50 years old

It leaks

The tiles change color

Correct answer: The flashing, fasteners, or underlayment have failed

Slate tile will last hundreds of years unless it is damaged by projectiles; but the flashings, fasteners, and underlayment do not have the same life expectancy. While roof leaks may be an indicator of failure of the flashing details or underlayment, these areas can be spot repaired in most cases.

27.

A wall that follows the incline of the roof is referred to as:

A rake wall

A butt wall

A by-wall

A jack wall

Correct answer: A rake wall

A rake wall follows the incline of the roof.

A butt wall is where the wall intersects the by-wall. A by-wall (also known as a through wall) is a long wall. A jack wall (also known as a knee, pony, or cripple wall) is a short wall typically used in areas where there is a step down.

28.

Temperature differential (or temperature drop) should be checked:

At the register closest to the evaporator coil

At the register furthest from the air handler

Inside the furnace closet

At the kitchen register

Correct answer: At the register closest to the evaporator coil

Temperature differential (or temperature drop) is most accurately taken from at least 12" from either side of the evaporator coil after the unit has run for at least 15 minutes.

29.

A cricket should be provided on any chimney:

24" or wider

Near a side wall condition

24” or less

That is not constructed of masonry

Correct answer: 24" or wider

A cricket is installed to divert water around a chimney, reducing the opportunity for water penetration of the building.

Backer (head) flashing is used for chimneys less than 24" wide.

30.

Which portion of the furnace system is situated on either side of the fan and heat exchanger to bring in, distribute, and remove air?

Plenum ducts

Trunk ducts

Branch ducts

Diffusers

Correct answer: Plenum ducts

The supply and return plenums sit on either side of the air handler (heat exchanger and fan side, respectively).

Trunk ducts (both supply and return) serve as the central distribution line. Branch ducts branch from the trunk ducts. Diffusers control the volume of air flowing into a room.

31.

All these choices are types of garage door openers EXCEPT:

Loop drive

Belt drive

Chain drive

Screw drive

Correct answer: Loop drive

The most common drive types are the belt, chain, and screw drive. There are several other types found in the field, including direct drive and jackshaft.

32.

All the following are acceptable means of grounding the electrical system EXCEPT:

Gas piping system buried underground

Main water supply line within 5' of the entrance, assuming it is metal

Grounding rod driven to a minimum depth of 8' in a vertical position, leaving 1–2" visible at the surface

Ufer grounds with an access point visible, usually from the attached garage

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Correct answer: Gas piping system buried underground

Gas piping must be bonded to the electrical system; however, it cannot be used as the Grounding Electrode Conductor (GEC).

Assuming the main water line is metal, it can be used as the ground (or earthing), as long as the connection is made within 5' of the line as it goes underground. Ground rods are another means of grounding (or earthing) that can be used, although caution should be used to ensure that the rod has not been cut or installed at an angle that is too steep. Ufer grounds are often seen in newer construction (although they can be found as early as the 1970's), and they must have an access plate in order to visually confirm the connection of the GEC to the rebar.

33.

Water heaters should have a pressure relief valve rated for:

150 psi

30 psi

15 psi

60 psi

Correct answer: 150 psi

Domestic hot water systems should have pressure relief valves rated at 150 psi.

Steam systems should have a pressure relief valve rated at 15 psi, and boilers should have a pressure relief valve rated at 30 psi.

The pressure relief valve is a safety valve that will open in the event of elevated levels of pressure within the system, preventing an explosion.

34.

Gas appliances are classified in categories ranging from Category I–IV. What determines the classification?

Vent gas temperature and whether the vent is under positive or negative pressure

Sizing (BTU) of the appliance

Direct-drive vs. belt-driven blower motor

Hot surface ignition vs. standing pilot light ignition

Correct answer: Vent gas temperature and whether the vent is under positive or negative pressure

Categories are determined based on vent gas temperatures and whether the vent is under positive or negative pressure.

While an inspector is required to report on the size of the appliance, categories are not reportable; but they can be helpful to know and understand, as the category of the appliance will determine the vent piping required.

35.

What are the three types of copper tubing size?

Type M, L, and K

Type A, B, and C

Type NM, AC, and SE

Type FVIR, DWV, and CSST

Correct answer: Type M, L, and K

Copper types are denoted by the color of the labeling and the thickness of the pipe. M is the thinnest and is imprinted in red writing. K is the thickest and is printed in green. L is the mid-range, and it is printed in blue.

36.

The purpose of a header is:

To distribute loads around a wall or floor opening

To brace a temporary wall

To support a purlin wall

To act as a buttress for a retaining wall

Correct answer: To distribute loads around a wall or floor opening

The header spans the opening or void in the floor or wall to distribute the load around the opening.

37.

In an attic, the inspector is NOT required to identify or report on:

Presence of television antenna or cables

Methods used to inspect the attic

Ventilation

Insulation material(s)

Correct answer: Presence of television antenna or cables

Standards Of Practice (SOPs) may vary slightly. However, most are generally similar. The home inspector is required to disclose which SOP they will be following and reporting for their inspections.

All of the answers, except the presence of a television antenna or cables, are required to be reported on as a minimum standard.

38.

Evaporative coolers, sometimes called “swamp coolers,” are effective in:

Arid climates

Swamps

All climates

Hot, humid climates

Correct answer: Arid climates

An evaporative cooler is a type of air conditioning unit that is installed on the roof of a building and is often found on older homes in hot, dry parts of the West.

39.

The three layers of the traditional stucco coating process are:

Scratch, brown, and finish

Moisture barrier, weep screed, and drainage plane

Drainage plane, capillary break, and building paper

Weep screed, building paper, and metal lath

Correct answer: Scratch, brown, and finish

While all the terms are used in one way or another with the traditional stucco application process, the scratch coat, brown coat, and finish coat are the three parts of the coating process.

A drainage plane is created by using such things as building paper (sometimes referred to as a moisture barrier), weep screed (flashing detail at the base of the wall), and metal lath (an attachable base for the coating to adhere to).

Home inspectors should be able to identify how exterior components are installed, in order to properly identify missing or underperforming details.

40.

Which mechanical device provides ventilation to the building and uses the heat in stale exhaust air to preheat incoming fresh air, while capturing the humidity in the air to maintain internal humidity levels?

Energy Recovery Ventilators

Heat Recovery Ventilators

Whole-House Ventilation

Local/Spot Exhaust Fans

Correct answer: Energy Recovery Ventilators

Energy (or Enthalpy) Recovery Ventilators work similarly to Heat Recovery Ventilators (HRVs) in that they replace stale indoor air with fresh outdoor air, while capturing the humidity in the air to help keep the ambient internal humidity at a reasonable level.

Heat Recovery Ventilators replace stale indoor air with fresh outdoor air to maintain healthy indoor air quality and provide proper ventilation of the building assembly. Whole-House Ventilation systems use fans and duct systems to exhaust stale air and/or supply fresh air to dilute potential contaminants throughout the home. Local (or Spot) Exhaust Fans are installed in moisture-rich rooms (such as bathrooms, laundry rooms, and kitchens) to disperse excessive moisture and help control humidity levels.

41.

Which of these are intended to protect the home from fire by providing an interruption of power when a conductor is damaged?

Arc Fault Circuit Interrupters (AFCIs)

Ground Fault Circuit Interrupters (GFCIs)

Tamper-Resistant Receptacles

Overcurrent Protection Device

Correct answer: Arc Fault Circuit Interrupters (AFCIs)

AFCI breakers or receptacles protect the home from fires created by damage to conductors along the circuit.

Ground Fault Circuit Interrupter (GFCI) receptacles or breakers protect an individual from shock. Tamper-Resistant Receptacles are intended to protect small children from shock. An Overcurrent Protection Device is the technical description for a circuit breaker or fuse protecting the circuit.

42.

All of the following are prohibited traps EXCEPT:

P-Trap

Drum Trap

S-Trap

Bell Trap

Correct answer: P-Trap

A trap provides a liquid seal between the drainage pipes and the sewer gases that are created by the decaying of household and industrial waste.

Older homes had several traps that were once allowed, but they are no longer allowed because they can lose their seal or become easily clogged. Bell and Drum Traps are susceptible to clogging. S-Traps are prone to siphoning the water from the drain, preventing a liquid seal.

43.

Torsion is:

The twisting force applied to an object

A pushing force applying inward force on an object

The unaligned forces acting in opposite directions

The opposing forces pulling an object apart

Correct answer: The twisting force applied to an object

Compression is a pushing force applying inward force on an object. Tension is two opposing forces pulling an object apart. Shear is the unaligned forces acting in opposite directions.

44.

Perimeter footing drains consist of:

Perforated drainpipe

Solid drainpipe

Corrugated drainpipe

Cast iron drainpipe

Correct answer: Perforated drainpipe

Perimeter drains relieve excessive hydrostatic pressure that occurs from rising groundwater, and they also carry away excess surface water. Because of their purpose, these pipes need to be perforated in order to accept groundwater.

Corrugated drainpipe can be either solid or perforated. Cast iron pipe is most often found in plumbing or sewer components and is a solid drainpipe.

45.

Buried drain tile (downspout leader) should be:

Non-perforated drain pipe

Corrugated drainpipe

Perforated drain pipe surrounded by filter fabric and gravel

Perforated drain pipe

Correct answer: Non-perforated drain pipe

While a corrugated drainpipe can be used, a corrugated pipe can be perforated or solid. The best answer of those listed is non-perforated drain pipe. Non-perforated pipe should be used to direct water away from the building, preventing erosion.

Perforated drain pipe surrounded by filter fabric and gravel is used with a "French drain" to alleviate hydrostatic pressure at a footing, or it is used behind a retaining wall.

46.

Which definition best describes a balcony?

A platform on the exterior, at the second story or above

An exterior extension of the house that is roofed

A platform on the exterior that can be attached to the building or freestanding, supported by posts

A small platform that serves as a landing on the exterior

Correct answer: A platform on the exterior, at the second story or above

While terminology can vary throughout the country, the distinction between a balcony and a deck is that a balcony is at the second level or higher.

A deck is a platform on the exterior. It can be attached to the building; or it can be freestanding, supported by posts. A stoop is a small platform that serves as a landing on the exterior. A porch is an exterior extension of the house that is roofed.

47.

When framing a bearing wall, the wall should NOT be offset more than _____ from the supporting wall or beam underneath it.

One joist depth

Bearing walls should not be offset at all

Two parallel studs

One beam (girder) depth

Correct answer: One joist depth

For example: If the flooring joist is a nominal 2 x 6 (1 1/2" x 5 1/2"), then the offset of the supporting wall or beam under the floor should not be more than 5 1/2" to the side of that supporting wall or beam.

48.

Which of the following is NOT a requirement of identification and reporting when inspecting the cooling system?

Electronic air filters

Cooling equipment and operation using normal controls

Energy source and connections

Through-the-wall unit(s) or installed units

Correct answer: Electronic air filters

The NHIE uses the most common Standard Of Practice (SOP) documents (American Society of Home Inspectors and InterNACHI) for questions about what is required and not required to be included in the inspection report. If you can familiarize yourself with these SOPs for the exam, you will do well.

49.

Access to the sub-floor area if mechanical equipment is present should be a minimum of:

22" x 30"

16" x 24"

30" x 30"

36" x 36"

Correct answer: 22" x 30"

16" x 24" is the minimum opening for the underfloor (crawlspace) area that does not have any equipment. 30" x 30" is the minimum measurement of the required working area necessary for a service technician to service equipment in an attic space. 36" x 36" is the minimum depth and width of a staircase landing or a landing outside the walking path of a door that does not meet grade.

50.

The vent for a wall furnace should terminate a minimum of how many feet above the bottom of the furnace?

12'

8'

4'

15'

Correct answer: 12'

Wall furnaces use type B-W vent material, which requires a minimum termination point that is 12' from the base of the unit.

Type B or Type L gas vent pipes require 5' above the highest connected appliance draft hood.

51.

What is the required distance from the base of the weep screed to a paved or hard surface?

2"

4"

4 3/8"

3"

Correct answer: 2"

4" is the clearance to the earth, and the other two answers do not apply to siding clearances.

52.

Headroom over a stairway must be a minimum of:

6'8" with exceptions

7’4” with exceptions

7’ with exceptions

6’ with exceptions

Correct answer: 6'8" with exceptions

While home inspectors are not required to determine if a home is "code compliant," it is important for home inspectors to know the minimum requirements of common elements so that they can inform clients of the current condition of the element.

As with many aspects of the building, home inspectors should be aware of basic minimums. The other answers are just distractors.

53.

What is live load?

The constant load and downward force imposed on a building by occupants and their belongings

The amount of water vapor that needs to be removed from the air inside a building because of the temperature of the air, including solar heat gain, operation of equipment, and through walls and ceilings

The amount of water vapor that needs to be removed from the air inside a building, including from breathing, cooking, bathing, and air infiltration from the exterior

The constant load and downward force imposed on a building by building materials and permanently affixed equipment

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Correct answer: The constant load and downward force imposed on a building by occupants and their belongings

Sensible load is the amount of water vapor that needs to be removed from the air inside a building because of the temperature of the air, including solar heat gain, operation of equipment, and through walls and ceilings. Latent load is the amount of water vapor that needs to be removed from the air inside a building, including from breathing, cooking, bathing, and air infiltration from the exterior. Dead load is the constant load and downward force imposed on a building by building materials and permanently affixed equipment.

54.

What is the difference between identifying the exterior unit for an air conditioning system and a heat pump system?

Presence of a reversing valve

Nothing

Presence of a metering device

Presence of expansion valves

Correct answer: Presence of a reversing valve

The reversing valve is only found on a condenser that functions in both the heating and cooling mode (heat pump). The mechanism reverses the flow of the refrigerant, depending on whether the unit is being operated in the heating or cooling mode.

55.

Which three are the main components of the air conditioning or heat pump system?

Air handler, condenser, and evaporator coil

Compressor, evaporative cooler, and suction line

Suction line, condensate, and heat pump

Split system, duct, and evaporator coil

Correct answer: Air handler, condenser, and evaporator coil

While all the answers relate to the air conditioning or heat pump system, the main components are the air handler (also known as a furnace), condenser, and evaporator coil.

The compressor and suction line are part of the condenser. Condensate will be created through the operation of the system. Split system and evaporative cooler are both types of A/C systems.

56.

What are two styles of windows?

Double hung and casement

Factory sealed and vented

Double and triple pane

Sashes and muntins

Correct answer: Double hung and casement

Factory sealed refers to the hermetic seal that provides some level of energy efficiency. Double or triple pane windows are "sealed" with an inert gas between the panes. Vented windows are used in high-efficiency buildings for allowing air to flow passively into the space (they are often referred to as trickle vents). Sashes and muntins are parts of a window.

57.

What is the minimum clearance to soil for untreated dimensional wood beams?

12"

6"

8"

18"

Correct answer: 12"

Clearance of the ground is dependent on the thickness of the untreated dimensional wood. Pressure treated or naturally durable wood will have different clearance requirements.

58.

Wells are not to be located within how many feet of a leach field?

100'

50'

20'

5–10'

Correct answer: 100'

A well should be located so that minimum isolation distances reduce the possibility for the well to be contaminated. Distances may vary by jurisdiction. However, the generally accepted clearance from a septic tank is 50' to prevent possible contamination. 5–10' clearance from a building is recommended so that roof water runoff can dissipate. 100' clearance to a leach field is recommended to protect from potential contamination. 20' clearance is recommended from in-ground swimming pools.

59.

What is the maximum variance in riser height allowed?

3/8"

1/2"

3/4"

1"

Correct answer: 3/8"

Differences in height and depth of stair risers and treads can be a tripping hazard and should be reported.

60.

What is the minimum separation between framing and a masonry chimney?

2"

6"

8"

3"

Correct answer: 2"

Clearance requirements may vary depending on how far away the framing is from the firebox or flue liner. However, they are never less than 2".

61.

A heating system should be able to maintain how many degrees Fahrenheit in a habitable space?

68 degrees Fahrenheit

65 degrees Fahrenheit

60 degrees Fahrenheit

72 degrees Fahrenheit

Correct answer: 68 degrees Fahrenheit

The International Residential Code has established that a heating system, in order to be deemed "functional," should be able to maintain 68 degrees Fahrenheit at a point 3' above the floor level and 2' from the exterior wall.

62.

Which of the following best describes the force imposed upon a building in a pulling motion?

Tension

Lateral

Uplift

Compression

Correct answer: Tension

In physics, tension is described as the pulling force, and compression is a pressing inward force. Lateral force is a force that acts in parallel. Uplift is the upward pressure applied to the structure, usually by wind.

63.

The duct work for a furnace located in the garage must have a minimum of what gauge steel?

26-gauge

28-gauge

12-gauge

6-gauge

Correct answer: 26-gauge

26-gauge is the minimum for steel used in the construction of ductwork in the garage with no openings into the garage.

64.

Which of these lists of components are you most likely to find on a mini-split heating system?

Condensate management system, indoor air handling unit, and exterior condenser

Barometric damper, natural draft venting system, and indoor air handling unit

Type B vent pipe, mechanical draft, and indoor air handling unit

Condensate management system, PVC/ABS vent piping, and closed combustion chamber

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Correct answer: Condensate management system, indoor air handling unit, and exterior condenser

Mini-split systems are not furnaces, but they are necessarily considered high-efficiency; the main difference is that a furnace does not need an exterior condenser and can still be considered high-efficiency.

Barometric dampers and natural draft venting systems are the least efficient and are often seen when an oil furnace is the heat source. Type B vent pipes are used in mid-efficiency forced air furnace installations and are often used with mechanical draft systems (inducer fan). High-efficiency furnaces operate at 88%+ efficiency and will have condensate as a byproduct of the burning of fuel. High-efficiency venting systems recycle the unused heat, so the vent pipe temperatures are low and plastic piping can be used. High-efficiency furnaces also use a closed combustion chamber.

65.

Tools necessary for a home inspection include all EXCEPT:

Sewer camera

Screwdriver

Electrical circuit tester

Ladder

Correct answer: Sewer camera

While sewer inspections can be an add-on service that is provided by the inspection company, a sewer camera is not considered necessary for a home inspection.

66.

Common driveway and walkway materials include all of the following EXCEPT:

Wood

Gravel

Flagstone

Concrete

Correct answer: Wood

While wood will occasionally be found used in walkways, it's not commonly found and it will deteriorate quickly.

67.

If a forced air heating system is hardwired, then a disconnect switch must be:

Within 5’ of the unit

Within 6’ of the unit

Within 8’ of the unit

Directly adjacent to the unit

Correct answer: Within 5’ of the unit

There are requirements for most appliances and their disconnection means. Some requirements are within sight of the unit, and some have minimum feet requirements; but most are required within the same room as the appliance.

The rule of 6' within sight of the unit typically refers to fuel shutoff valves, noting that they need to be located within the same room. The other two answers are merely distractors.

68.

Capillary action works by using the forces of:

Adhesion, cohesion, and surface tension

Accession, collision, and expulsion

Division, commission, and expression

Friction, disintermediation, and hyperpigmentation

Correct answer: Adhesion, cohesion, and surface tension

Adhesion enables water to "climb" against gravity by the attraction of molecules of one kind to molecules of another kind. Cohesion is the tendency for something (water molecules, in this case) to stick together. Cohesion is the force responsible for surface tension.

69.

Footing width for a one-story house should be a minimum of:

12"

24"

18"

6"

Correct answer: 12"

While footings will not always be visible to the home inspector, minimum widths and depths should be known and questions are expected for the exam.

Minimums are based on code requirements and will vary for building height, soil load-bearing value, and frost lines.

70.

Which three things must be present in order for a room to be considered habitable?

Heat, light, and ventilation

Smoke detector, flooring, and light

Heat, carbon monoxide detector, and closet

Ventilation, smoke detector, and light

Correct answer: Heat, light, and ventilation

Habitable rooms must have a permanent means of heating the room to maintain a temperature of 68 degrees Fahrenheit (except in Hawaii). Natural ventilation openings (such as a window or door) to outdoor air need to be present (greater than or equal to 4% of the floor area, but exceptions may apply). Natural light is required and must be equal to or greater than 8% of the floor area.

71.

Underfloor (crawlspace) ventilation must:

Have 1 square foot per 150 square feet of underfloor area, and vent openings within 3 feet of each corner unless it is a conditioned area

Be located at least 6’ from the property line or have no openings on that side of the crawlspace

Be mechanically assisted in all new construction

Have 2 square feet per 300 square feet of underfloor area, and vent openings within 6 feet of each corner

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Correct answer: Have 1 square foot per 150 square feet of underfloor area, and vent openings within 3 feet of each corner unless it is a conditioned area

Properly ventilating under floor areas is essential to avoid damage from moisture accumulation. Proper air flow is necessary to dissipate excessive moisture accumulation.

72.

Breaker panels are NOT allowed in:

Clothes closets or bathrooms

Kitchens and garages

Bedrooms and hallways

A space within 36" of a doorway

Correct answer: Clothes closets or bathrooms

The National Electrical Code has established rules around the locations acceptable for breaker panels. Closets can pose a fire hazard by allowing flammable materials to be too close to the panel. Bathrooms are not allowed due to the excessive amounts of moisture.

73.

Pedestrian gates that allow access to an area with a pool should be:

Self-closing and self-latching

Always locked

Installed to swing toward the pool

There are no specific requirements that need to be followed

Correct answer: Self-closing and self-latching

While a pedestrian gate allowing access to an area with a pool does not have a requirement to be locked, it must be self-closing and self-latching.

Pedestrian gates should be installed to swing away from the pool area. Specific requirements will vary by jurisdiction.

74.

If a furnace is located in an underfloor (crawlspace) location, what is the minimum clear distance to the ground from the enclosure?

6"

4"

12"

30"

Correct answer: 6"

6" clearance is necessary for clearance below the floor joists as well as above the grade. 12” minimum is from the grade adjacent to the enclosure. 30” is the minimum working space for a service technician. 4” is the minimum clearance of the vent pipe above the adjacent grade if the excavated area is greater than 12” deep.

75.

Which is NOT a category associated with veneers?

Molded

Attached

Anchored

Adhered

Correct answer: Molded

Anchored veneers are supported laterally by anchoring to the backing, and they are supported by the foundation or other structural element. Adhered veneers are directly "glued" to the backing with a bonding material. An example of anchored veneer is brick, and an example of adhered veneer is stucco. All veneers are attached.

76.

What is the minimum electrical service size requirement for a single family dwelling?

100 A

150 A

60 A

200 A

Correct answer: 100 A

Minimum service requirements for new construction may vary by jurisdiction, but the National Electrical Code has established 100A as the minimum for a single family dwelling.

77.

Compression is:

A pushing force applying inward force on an object

The unaligned forces acting in opposite directions

The twisting force applied to an object

Two opposing forces pulling an object apart

Correct answer: A pushing force applying inward force on an object

Tension is two opposing forces pulling an object apart. Shear is the unaligned forces acting in opposite directions. Torsion is the twisting force applied to an object.

78.

What two kinds of air supply are necessary for the combustion of solid fuels?

Primary and secondary

General and backup

Draft and mechanical

Individual and coupled

Correct answer: Primary and secondary

Proper ventilation and combustion air (sometimes referred to as makeup air) are necessary for the burning of solid fuels and for the prevention of backdrafting of combustion byproducts back into the home.

There are several factors involved in determining the proper square inches of primary and secondary air, depending on the type and style of the appliance. A home inspector should be familiar with the nuances of the rules around combustion primary and secondary air supply requirements.

79.

For an appliance located in an underfloor (crawlspace) or attic space, all the following are necessary to be present EXCEPT?

Drain pan under the appliance

Luminaire near the appliance

Within 20’ of the entrance to the crawlspace or attic

Receptacle outlet near the appliance

Correct answer: Drain pan under the appliance

All except the drain pan are required in both spaces.

A drain pan would be required in an attic (or any location in which the unit could cause damage to the living area) if the unit is a high efficiency unit or any other unit that creates condensation or holds water.

80.

Collected roof water runoff should be carried through:

Solid drainpipe

Perforated drainpipe

Corrugated drainpipe

Filter fabric

Correct Answer: Solid drainpipe

Although corrugated drainpipe can be either solid or perforated, solid drainpipe is the best answer.

Roof water runoff should be carried away from the building a minimum of ten feet from the foundation.

Filter fabric is used with perforated drain tile to prevent blockage.

81.

Wells are not to be located within how many feet of a septic tank?

- **50'**
- 5–10'
- 100'
- 20'

Correct answer: 50'

A well should be located so that minimum isolation distances reduce the possibility for the well to be contaminated. Distances may vary by jurisdiction. However, the generally accepted clearance from a septic tank is 50' to prevent possible contamination. 5–10' clearance from a building is recommended so that roof water runoff can dissipate. 100' clearance to a leach field is recommended to protect from potential contamination. 20' clearance is recommended from in-ground swimming pools.

82.

Electrical service entrance clearance over an accessible walking surface is:

10'

12'

22'

3'

Correct answer: 10'

There are many clearance requirements for electrical service entrance cables, which should be known to home inspectors. 10' clearance is required from the lowest point above grade.

12' clearance is required over driveways. 22' clearance is required over a pool in any direction to the water. 3' clearance is required adjacent to and below an openable window or door.

83.

What is the primary downside to electric resistance heating systems?

Operating costs

Only heats individual areas

Is an expensive heating system to install

Not enough variety of options

Correct answer: Operating costs

Electric resistance heating systems come in a variety of options and can be less expensive to install than their fuel-burning counterparts. Electric resistance heating systems can service an entire building or individual rooms. The primary downside is the cost of electricity in the jurisdiction of the home.

84.

“Flat” roofing systems:

Should slope enough for water to drain

Shed water much like a pyramid or umbrella

Are not actually designed to be watertight

Are designed to accommodate standing water

Correct answer: Should slope enough for water to drain

Flat roofing systems are not truly flat; they should have a minimum of 1–2% slope.

85.

What is a sensible load?

The amount of water vapor that needs to be removed from the air inside a building because of the temperature of the air, including solar heat gain, operation of equipment, and through walls and ceilings

The amount of water vapor that needs to be removed from the air inside a building, including from breathing, cooking, bathing, and air infiltration from the exterior

The constant load and downward force imposed on a building by building materials and permanently affixed equipment

The constant load and downward force imposed on a building by occupants and their belongings

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Correct answer: The amount of water vapor that needs to be removed from the air inside a building because of the temperature of the air, including solar heat gain, operation of equipment, and through walls and ceilings

Latent load is the amount of water vapor that needs to be removed from the air inside a building, including from breathing, cooking, bathing, and air infiltration from the exterior. Dead load is the constant load and downward force imposed on a building by building materials and permanently affixed equipment. Live load is the constant load and downward force imposed on a building by occupants and their belongings.

86.

All of the following drive air through a building EXCEPT:

Evaporator coil

Stack effect

Outside air temperature

Mechanical fans

Correct answer: Evaporator coil

While an evaporator coil is part of a system that can drive air through a building, it needs to work in conjunction with the air handler (furnace) and condenser in order to work as a complete system.

Mechanical ventilation can come in many forms (spot fans, energy recovery systems, balanced ventilation systems, etc.), and it plays an important role in maintaining the indoor air quality. Pressure differences between the indoor and outdoor environments will drive air through the building via the stack effect (hotter air is lighter than cooler air and will rise).

87.

The supporting steel member found in a brick veneer siding application over an opening (door, window, etc.) is:

The lintel

The mantel

A corbel

The throat

Correct answer: The lintel

Lintels are usually made of iron or steel and span the opening of a window or door to provide support for the bricks above the opening.

88.

What is the minimum slope for hard surface grading to drain away from a house?

> 1/4” fall per foot

> 5/8” fall per foot

6” in 10’

There is no industry standard

Correct answer: > 1/4” fall per foot

Hard surface grading should slope at least > 1/4” fall per foot away from a house. Hard surface grading that slopes toward a house can lead to erosion of the soil supporting the home and/or water intrusion of the building, damaging other components.

89.

A pipe trench below a footing shall be offset from the bottom of the footing a minimum of:

45 degrees

No offset is required

60 degrees

6 feet

Correct answer: 45 degrees

45 degrees is the minimum distance from the bottom of the footing that a trench can be dug. The footing must sit on undisturbed soil. The soil under the footing, extending out and down at a 45 degree angle, is a critical zone of compaction.

90.

A private well should be located a minimum of how many feet from a septic tank?

50'

75'

100'

25'

Correct answer: 50'

Leach fields and septic tanks should be located a minimum of 50' from a well head.

Petroleum and storage areas for pesticides, herbicides, and fertilizers should be a minimum of 100' away from the well head.

91.

Steam boiler systems should have a pressure relief valve rated for:

15 psi

30 psi

150 psi

60 psi

Correct answer: 15 psi

Steam boiler systems should have a pressure relief valve rated at 15 psi.

Hot water boilers should have a pressure relief valve rated at 30 psi. Domestic hot water systems should have pressure relief valves rated at 150 psi.

The pressure relief valve is a safety valve that will open in the event of elevated levels of pressure within the system, preventing an explosion.

92.

Wood retaining walls should be:

Limited to under 4' in height

Built with any combination of wood available

Expected to have a service life of 50 or more years

Engineered

Correct answer: Limited to under 4' in height

Due to the amount of hydrostatic pressure impressed upon retaining walls, and the lack of durability of wood in direct contact with the earth; it is recommended that wood retaining walls not exceed 4' in height.

Any retaining wall over 4' should be engineered. Wood retaining walls should only be built with pressure treated wood or decay-resistant wood.

93.

Current is:

The amount of electricity moving through a conductor

The opposition of a material to the flow of electricity

The flow of electricity reversing direction at a frequency of 60 cycles per second

The measurement of the amount of electricity moving through a conductor

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Correct answer: The amount of electricity moving through a conductor

Resistance is the opposition of a material to the flow of electricity. Alternate Current (A/C) is the flow of electricity reversing direction at a frequency of 60 cycles per second. Amperes is the measurement of the amount of electricity moving through a conductor.

94.

Hallways greater than how many feet in length require a receptacle?

10'

8'

6'

4'

Correct answer: 10'

Hallways over 10' long require at least one receptacle. Regardless of the hallway's length past 10', only one receptacle is required.

95.

CSST gas piping systems should be bonded with a:

6 AWG wire minimum

8 AWG wire minimum

10 AWG wire minimum

14 AWG wire minimum

Correct answer: 6 AWG wire minimum

CSST is a flexible corrugated stainless steel tubing used to supply gas throughout the home. Any metal piping system within the home that has the potential to become energized is required to be bonded to the main electrical system.

96.

A wood framing technique in which the wall studs extend from the foundation to the roof in a two-story structure is known as:

Balloon framing

Platform framing

Post and beam framing

Stick framing

Correct answer: Balloon framing

Balloon framing is found in older homes (pre-1940's). The studs run continuously from the foundation to the roof.

Platform framing is the framing technique used today. Post and beam framing refers to a method that uses large framing to create unobstructed open areas. Stick framing is a generic term that refers to building on-site using individual members as opposed to prefabricated sections.

97.

Electrical service entrance clearance over a balcony is:

10’ for 3’ past edge

8’ for 3’ past edge

14’ in any direction

18” for up to 6’

Correct answer: 10’ for 3’ past edge

There are many clearance requirements for electrical service entrance cables which should be known to home inspectors.

8' for 3' past the roof edge clearance is required above low-slope roofs. Clearance of 14' in any direction applies to the requirements above a diving board, platform, and ladders within 10' of the edge of a pool. 18" for up to 6' applies to the clearance requirement of overhanging eaves.

98.

What is the minimum slope for earth or porous surface grading to drain away from a house?

> 5/8” fall per foot

> 1/4” fall per foot

2% slope

There is no industry standard

Correct answer: > 5/8” fall per foot

Earth or porous surface grading should slope at least > 5/8” fall per foot away from a house. Diverting water away from the building is essential in preventing damage to the foundation.

99.

Safety glass is required in all the following EXCEPT:

A door with an opening that is 3"

A sidelight within 24" of the door and less than 60" above the floor

Railings

Any glass adjacent to stairways or landings and ramps within 36" horizontally of the walking surface

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Correct answer: A door with an opening that is 3"

Safety glass is typically required where there is the opportunity for a walk-through or fall hazard to occur (sliding glass doors, stairwells, guardrails, etc.).

Door openings that have glass are typically at eye level so that the occupant can see out to know who is at the door, or so that the person entering can see that no one is in the path of the opening.

100.

The component of a central air conditioning system which produces condensate is:

The evaporator coil

The condenser coil

The compressor

The accumulator

Correct answer: The evaporator coil

The evaporator coil is the unit located at the air handler; it produces condensate when heat is removed from the air flowing over it.

The accumulator is found near the compressor in the condenser unit and serves to protect the compressor.