PRACTICE EXAM 31: WATER UTILITY WORKER SIMULATION (100 QUESTIONS)

This independent practice simulation contains 100 four-option multiple-choice questions. Select the best answer for each item, complete the exam before reviewing the answer key, and use the explanations to identify the field principle behind each decision. The current official examination notice controls live testing conditions.

1. In a final restoration check before shift change, which action best establishes the system context before work begins?

A. Choose the nearest tool and begin the physical task.
B. Assume the visible pipe is the only affected component.
C. Trace the asset, flow path, isolation boundary, and public consequence.
D. Wait until restoration to identify connected customers.

2. In a final restoration check before shift change, what is the primary function of a distribution main?

A. Store all treated water for the entire service area.
B. Supply water to connected services and appurtenances within the network.
C. Measure each customer connection without a meter.
D. Remove every contaminant through treatment inside the pipe.

3. In a final restoration check before shift change, what should a worker do when the mapped asset cannot be confirmed in the field?

A. Force the most convenient nearby valve.
B. Continue because the map is presumed accurate.
C. Change the record silently after finishing the work.
D. Pause, protect the area, and report the discrepancy before operating or excavating.

4. In a final restoration check before shift change, which item is an appurtenance rather than a length of main?

A. A valve, hydrant, meter, or other connected operating device.
B. A section of undisturbed soil.
C. A traffic lane outside the work area.
D. A customer complaint without an identified asset.

5. Why is normal valve position important during planning?

A. It proves the valve will operate without field verification.
B. It eliminates the need for pressure checks.
C. It helps predict isolation, customer impact, and the expected system response.
D. It determines the correct traffic-control device by itself.

6. In a final restoration check before shift change, which description best fits a complete work-order closeout?

A. It states only that the crew left the location.
B. It records the asset, condition, work performed, verification, and follow-up needs.
C. It lists tools without describing the repair result.
D. It removes all notes that could require later attention.

7. In a final restoration check before shift change, what is the best response to an unexpected change in site conditions?

A. Stop at the safe boundary, protect the area, communicate, and revise the plan.
B. Continue quickly to avoid explaining the change.
C. Hide the change if the original task seems nearly complete.
D. Use a stronger tool without reassessing the hazard.

8. Why are crew roles assigned before a critical operation?

A. They allow everyone to perform the same task independently.
B. They eliminate the need for signals or confirmation.
C. They transfer all responsibility to the newest worker.
D. They clarify who directs, operates, observes, communicates, and records the action.

9. In a final restoration check before shift change, which approach best supports public service during a utility interruption?

A. Promise an exact restoration time without confirmation.
B. Argue that the interruption is not the worker's concern.
C. Protect the area, provide confirmed information, and communicate through the proper channel.
D. Speculate about customer responsibility at the work site.

10. A service line is best described as what?

A. A public roadway drainage pipe.
B. A temporary hose used for dewatering.
C. A valve operator's access key.
D. A connection carrying potable water from a main toward a meter or customer point.

11. Before repairing a service leak, what should be confirmed first?

A. Only the nearest visible wet spot.
B. The service identity, route, control points, material, and customer-side boundary.
C. Only the customer's reported estimate of pipe depth.
D. Only the replacement fitting's color.

12. In a final restoration check before shift change, what is the purpose of a service stop or curb stop?

A. To provide local control of water flow to a service connection.
B. To measure the customer’s total water use.
C. To support a roadway traffic taper.
D. To replace every main isolation valve.

13. Why must a service box remain accessible after restoration?

A. Future workers need to locate and operate the control without unnecessary excavation.
B. It increases the pressure inside the service line.
C. It guarantees the meter is accurate without inspection.
D. It prevents every customer-side plumbing problem.

14. In a final restoration check before shift change, which fitting-selection practice is safest?

A. Use the cheapest fitting that reaches both pipe ends.
B. Choose by appearance without checking the pipe material.
C. Use a service fitting as a substitute for a main repair design.
D. Match size, material, pressure rating, joint method, and approved requirements.

15. If water continues after a service stop is closed, how should the condition be treated?

A. Assume the water is harmless and reach into the opening.
B. Treat the service as pressurized until the cause is investigated and controlled.
C. Remove the fitting immediately to see what happens.
D. Declare isolation complete because the handle moved.

16. In a final restoration check before shift change, which step belongs before final service backfill?

A. Hide the joint so no one can inspect it later.
B. Open every nearby valve fully without observation.
C. Inspect the repair, check the surrounding condition, and confirm the approved restoration steps.
D. Record the job as complete before testing.

17. A customer asks a worker to repair unrelated private plumbing. What is the best response?

A. Perform the work without authorization.
B. Promise that the utility will pay for it.
C. Acknowledge the concern and refer it through the appropriate service channel.
D. Dismiss the customer without recording the concern.

18. In a final restoration check before shift change, what is the most useful observation when investigating a service complaint?

A. The asset identity, location, symptom, timing, and conditions that can be verified.
B. A conclusion about blame before inspection.
C. A guess about hidden piping from surface color.
D. A promise that the issue will never recur.

19. In a final restoration check before shift change, what should be assessed before opening a water main?

A. Only the pavement color above the pipe.
B. The line’s function, pressure condition, connected services, isolation options, and hazards.
C. Only the replacement crew’s preferred tool.
D. Only the amount of water visible at the surface.

20. Why can an unsupported bend become a leak or separation point?

A. Bends automatically remove all internal pressure.

B. Soil always provides identical support at every location.
C. A fitting’s paint prevents movement.
D. Pressure forces at the change in direction need a designed path for restraint.

21. Why must pipe material be verified before choosing a repair method?

A. All pipes respond identically to impact and heat.
B. Material matters only after the trench is backfilled.
C. Color alone establishes the approved repair method.
D. Materials differ in joining, handling, damage, corrosion, and compatibility requirements.

22. In a final restoration check before shift change, what is a major purpose of bedding beneath buried pipe?

A. To create a replacement for every joint gasket.
B. To increase traffic speed above the trench.
C. To distribute support and help maintain line, grade, and load transfer.
D. To eliminate the need for correct alignment.

23. Why is alignment important at a pipe joint?

A. It lets the gasket, fitting, and pipe share load without forced distortion.
B. It permits bolts to pull any pipe into place.
C. It removes the need for compatible dimensions.
D. It guarantees no inspection is needed.

24. In a final restoration check before shift change, what does adequate cover help protect against?

A. Every possible corrosion mechanism regardless of material.
B. Surface loading, impact, settlement effects, and exposure of the buried pipe.
C. A wrong valve operation by itself.

D. The need for any future locating work.

25. Why might the wettest surface point not be the leak source?

A. Water can travel through soil and emerge away from the pressure-boundary defect.
B. Water always rises directly above a break.
C. Surface water cannot move through soil.
D. A nearby valve must be the source of every wet spot.

26. In a final restoration check before shift change, what should be documented when corrosion is found beyond the planned repair?

A. Ignore it because the original work order is narrow.
B. The observed deterioration and the need for review or follow-up.
C. Cover it without recording the condition.
D. Replace unrelated assets without authorization.

27. In a final restoration check before shift change, which statement about a repair coupling is most accurate?

A. Every coupling provides identical restraint in every geometry.
B. A coupling removes the need to support pipe ends.
C. A coupling can correct any misalignment by tightening harder.
D. It solves a defined connection problem only when dimensions, material, and restraint needs match.

28. In a final restoration check before shift change, which valve function is most associated with routine isolation?

A. Measuring customer consumption.
B. Providing roadway warning to drivers.
C. Separating a line segment from pressure or flow for authorized work.

D. Removing all sediment from every main automatically.

29. In a final restoration check before shift change, what is the safest response to unexpected resistance while operating a valve?

A. Attach a longer bar immediately.
B. Stop, maintain control, and investigate the cause instead of adding uncontrolled force.
C. Strike the operator until it turns.
D. Assume the valve is fully open or closed.

30. Why is a hydrant’s controlling valve important?

A. It measures the customer’s monthly use.
B. It replaces the hydrant cap and chain.
C. It governs the hydrant’s connection to the pressurized main.
D. It determines the roadway speed limit.

31. In a final restoration check before shift change, what should be planned before opening a hydrant for flushing?

A. The discharge route, drainage, erosion control, traffic protection, and authorized rate of operation.
B. Only the color of the hydrant body.
C. Only the operator’s preferred opening speed.
D. Only the final meter reading.

32. In a final restoration check before shift change, what is a sound meter-reading practice?

A. Copy numbers without checking the address or identifier.
B. Estimate a reading whenever the register is difficult.
C. Change the register to match an expected bill.
D. Match the meter to the correct asset, read the register, and record the observed condition.

33. In a final restoration check before shift change, what may an inaccessible meter box indicate?

A. A maintenance and access problem requiring documentation and an approved response.
B. Proof that the meter is inaccurate.
C. Proof that the customer caused every leak.
D. A reason to remove private structures without authorization.

34. How should a suspected tamper indicator be handled?

A. Accuse the customer immediately.
B. Alter the seal before taking a record.
C. Ignore it if the meter still registers flow.
D. Secure the area, document observed facts, and notify the responsible channel.

35. Why should a hydrant be checked for outlet-cap condition?

A. The cap controls all main pressure remotely.
B. The cap makes traffic control unnecessary.
C. A missing or damaged cap can affect serviceability, leakage, and public safety.
D. The cap determines the meter reading.

36. In a final restoration check before shift change, what does an inspection of a valve box accomplish?

A. It confirms the valve is closed without operating or testing.
B. It checks location, access, condition, and the ability to reach the operating point.
C. It replaces the need for system records.
D. It guarantees the valve cannot leak below ground.

37. In a final restoration check before shift change, what is the central purpose of a pipe joint?

A. To provide a traffic warning by itself.
B. To replace every required pipe support.
C. To make material compatibility irrelevant.
D. To create a pressure-tight and structurally suitable connection between components.

38. Why are mechanical-joint bolts tightened evenly?

A. Even loading helps compress the gasket and gland uniformly around the pipe.
B. Uneven loading improves every gasket seal.
C. The first bolt should always be fully tightened before others.
D. Bolt force has no relation to leakage.

39. In a final restoration check before shift change, what does a restrained joint address beyond sealing?

A. It replaces all excavation protection.
B. It helps resist axial movement or separation caused by pressure and geometry.
C. It measures the flow rate through the pipe.
D. It guarantees the pipe needs no alignment.

40. In a final restoration check before shift change, what should be done with a gasket that is cut or contaminated?

A. Install it quickly because compression hides all damage.
B. Add random sealant to compensate.
C. Replace or handle it according to the approved procedure before assembly.
D. Turn it over and use the damaged side inside.

41. How should a misaligned flange be corrected?

A. Use bolts as a lever to force alignment.
B. Correct pipe support or position so the faces align without drawing them together by bolts.
C. Increase torque until the gap disappears.
D. Leave the gap and rely on sealant alone.

42. In a final restoration check before shift change, what is a risk of cross-threading a connection?

A. It can damage the threads and prevent a reliable pressure seal.
B. It improves thread engagement automatically.
C. It changes a threaded joint into a flange.
D. It eliminates the need for inspection.

43. In a final restoration check before shift change, what does flexibility in a coupling mean?

A. The joint can accept any angle and no support.
B. The coupling provides unlimited restraint.
C. The joint can accommodate only the movement or transition allowed by its design.
D. Alignment becomes optional after tightening.

44. In a final restoration check before shift change, which sequence best supports return to service after a joint repair?

A. Open fully and leave before checking the joint.
B. Backfill first and test only if a leak returns.
C. Record completion before pressure is restored.
D. Inspect, test as required, repressurize gradually, observe, restore, and document.

45. Why must pipe ends be cleaned before joining?

A. Cleanliness matters only for appearance.
B. Soil improves the seal when compressed.

C. A dirty surface increases material compatibility.
D. Dirt or damage can prevent the gasket or sealing surface from performing.

46. In a final restoration check before shift change, what should guide power-tool selection?

A. The tool with the largest motor regardless of task.
B. The task, material, access, force, energy source, and required finish.
C. The tool used by the previous crew for convenience.
D. The tool that requires the least inspection.

47. In a final restoration check before shift change, what is a key pre-use check for a power tool?

A. Check only whether it starts.
B. Remove a guard that slows the task.
C. Inspect guards, controls, cord or hose, handles, and the tool’s operating condition.
D. Test it while pointed toward coworkers.

48. Why should a compressed-air hose be routed carefully?

A. It can create stored-energy, whip, trip, and movement hazards.
B. Air hoses are harmless when the task is short.
C. A hose automatically locks every fitting.
D. Routing matters only after the tool is disconnected.

49. In a final restoration check before shift change, what is unsafe use of compressed air?

A. Using a compatible tool with controlled pressure.
B. Pointing it at a person or using it to clean skin or clothing.
C. Inspecting a hose before connection.
D. Depressurizing before disconnecting a coupling.

50. In a final restoration check before shift change, what is an important pump-planning question?

A. Only whether the pump is the loudest available.
B. Only whether the intake reaches the deepest point.
C. Where will the discharge go, and can it erode soil or affect people and property?
D. Only whether the hose is the same color as the pump.

51. Why must a generator be operated in a ventilated location?

A. Ventilation increases electrical voltage automatically.
B. Indoor operation is safe if a door is cracked.
C. Exhaust is harmless when the generator is small.
D. Combustion exhaust can create a carbon-monoxide hazard and ventilation reduces exposure.

52. In a final restoration check before shift change, what should happen before clearing a pump blockage?

A. Shut down and control the energy before reaching into or adjusting the equipment.
B. Reach in while the pump is running slowly.
C. Strike the intake with a hand tool while energized.
D. Ask another worker to hold the switch on.

53. In a final restoration check before shift change, what is a safe generator connection practice?

A. Connect directly to building wiring with a homemade lead.
B. Use approved cords, loads, placement, and electrical procedures without improvised backfeed.
C. Place the generator beside a doorway for convenience.
D. Use damaged cords if the load is temporary.

54. Why is equipment shutdown part of safe operation?

A. Adjustment, clearing, refueling, and movement often expose workers to stored energy.
B. Shutdown is needed only when the equipment is broken.
C. Running equipment is safer during adjustment because it saves time.
D. A quick task never requires isolation.

55. In a final restoration check before shift change, which condition can increase cave-in risk?

A. A clear work order by itself.
B. A clean tool box outside the trench.
C. A freshly painted vehicle with no load.
D. Rain, seepage, vibration, surcharge, cracking, or changed soil conditions.

56. In a final restoration check before shift change, what is the purpose of a protective excavation system?

A. To guarantee every surrounding utility is inactive.
B. To make access and inspection unnecessary.
C. To reduce worker exposure to cave-ins through sloping, shoring, shielding, or an approved method.
D. To permit work outside the protected area.

57. In a final restoration check before shift change, what is a limitation of a trench shield?

A. It makes all soil outside the shield stable.
B. It protects only the area within the shield when properly placed and used.
C. It permits workers to stand beneath unsupported ground.
D. It eliminates the need for safe entry and exit.

58. In a final restoration check before shift change, what is the role of a competent person in excavation work?

A. Operate every tool regardless of training.
B. Approve unrelated customer billing decisions.
C. Recognize hazards, inspect conditions, and direct corrective action under the applicable rule.
D. Replace all traffic-control responsibilities automatically.

59. Why must access and egress remain clear?

A. Workers need a usable route to enter, move, and leave the excavation safely.
B. It makes soil stronger.
C. It changes the trench into a shield.
D. It eliminates the need for inspection.

60. In a final restoration check before shift change, what should happen after a crack develops at an excavation edge?

A. Continue because the pipe is nearly exposed.
B. Place a cone on the crack and keep digging.
C. Stand below the crack to watch it closely.
D. Workers leave the exposure and the condition is evaluated before reentry.

61. In a final restoration check before shift change, what does underground utility locating provide?

A. Records, marks, and information that guide cautious exposure and coordination.
B. Absolute proof that no unmarked facility exists.
C. Permission to excavate without observing the marks.
D. A replacement for supporting an exposed utility.

62. How should an unexpected underground conduit be handled?

A. Pull it aside to make room for the water pipe.
B. Assume it is abandoned and cut it.

C. Backfill around it without recording the discovery.
D. Stop, protect it, and coordinate verification or conflict resolution before continuing.

63. Why should spoil and equipment be managed near an excavation edge?

A. They improve the soil simply by being nearby.
B. They prevent all water from entering the trench.
C. They can add surcharge, fall into the cut, or affect wall stability and access.
D. They make protective systems unnecessary.

64. In a final restoration check before shift change, what should come before selecting PPE?

A. Choose the heaviest PPE without assessing the task.
B. Identify the hazard and apply feasible isolation, guarding, distance, or work controls.
C. Treat PPE as a substitute for traffic control.
D. Use familiar PPE even when it does not match the exposure.

65. Why must a work zone be established before the hazard is created?

A. Traffic devices are useful only after equipment enters the lane.
B. A few cones always replace a complete plan.
C. The public can choose its own route through the work area.
D. Drivers, pedestrians, and workers need a protected and understandable path around the task.

66. In a final restoration check before shift change, what is a key requirement for a spotter or guide?

A. Standing between the truck and a fixed object.
B. Giving signals while performing another attention-demanding task.
C. A visible position, clear signal, protected escape path, and authority to stop movement.
D. Continuing signals after visual contact is lost.

67. In a final restoration check before shift change, what should happen when an operator loses sight of the backing guide?

A. The vehicle stops until communication and a clear path are reestablished.
B. Continue slowly using mirrors alone.
C. Back toward the last signal.
D. Ask pedestrians to move closer and guide informally.

68. In a final restoration check before shift change, which vehicle inspection item directly supports load security?

A. Paint color on the cab.
B. Tie-downs, restraints, attachment points, and the condition of the load.
C. The number of windows in the office.
D. The driver’s preferred route home.

69. In a final restoration check before shift change, what does high-visibility clothing accomplish?

A. It helps make workers more conspicuous to approaching drivers and equipment operators.
B. It physically stops a moving vehicle.
C. It replaces barriers and traffic devices.
D. It guarantees drivers will obey every instruction.

70. In a final restoration check before shift change, what is a sound manual-lifting decision?

A. Jerking the load to overcome resistance.
B. Twisting while carrying because the distance is short.
C. Lifting alone to avoid delaying the crew.
D. Assess weight, path, footing, grip, assistance, and mechanical options before lifting.

71. How should a specific hazard report be written?

A. Use only the word “unsafe.”
B. Assign blame without describing the condition.
C. State the location, condition, exposure, immediate control, and needed follow-up.
D. Omit the report if no injury occurred.

72. Why should a vehicle be positioned carefully near an excavation?

A. Vehicles cannot influence soil stability.
B. Its movement, load, and surcharge can affect the edge, workers, and escape path.
C. Parking closer always improves safety.
D. The excavation makes backing alarms unnecessary.

73. In a final restoration check before shift change, what must be verified after a valve is used for isolation?

A. Only the direction the handle points.
B. The expected pressure, flow, or other approved indication of the isolated condition.
C. Only the time written on the work order.
D. Only whether nearby traffic noticed the operation.

74. In a final restoration check before shift change, what is the difference between flushing and disinfection?

A. Flushing moves unwanted water or debris; disinfection follows a controlled microbial-treatment procedure.
B. They are identical steps in every repair.
C. Flushing always replaces sampling or release criteria.
D. Disinfection is only a traffic-control activity.

75. In a final restoration check before shift change, what creates a cross-connection concern?

A. Any visible pipe regardless of connection.
B. A clean tool stored in a truck.
C. A meter reading with no physical connection.
D. A possible link between potable water and a nonpotable source under pressure conditions.

76. Why must pipe ends be protected during potable-water work?

A. Capping increases customer meter accuracy.
B. Protection makes pressure verification unnecessary.
C. Open ends can admit soil, oils, chemicals, organisms, or other contaminants.
D. Any cover is acceptable even if dirty.

77. In a final restoration check before shift change, what is a useful water-quality observation record?

A. A promise that no health concern exists.
B. A conclusion about the cause before review.
C. An accusation against the nearest customer.
D. Location, timing, operation, appearance, customer report, and facts that can be verified.

78. In a final restoration check before shift change, what is the first priority during a main break?

A. Enter the water immediately to reach a valve.
B. Start repair before traffic protection.
C. Protect people and the public while establishing control of the water and work area.
D. Wait for complete information while the hazard expands.

79. Why should repressurization be gradual after a repair?

A. Rapid opening always prevents water hammer.

B. It allows the crew to observe the joint and surrounding system for leakage or movement.

C. A repaired joint cannot move under pressure.

D. Gradual operation matters only for meters.

80. In a final restoration check before shift change, what should govern a disinfection or sampling release decision?

A. The current utility procedure and applicable regulatory or project requirements.

B. A worker’s memory of another project.

C. The color of the flushed water alone.

D. A customer’s request to restore service immediately.

81. How does system integrity relate to recordkeeping?

A. Records matter only for billing.

B. A record cannot affect future emergency response.

C. Deleting abnormal notes improves system reliability.

D. Accurate records help future crews understand asset condition, operation, and unresolved risk.

82. In a final restoration check before shift change, what is the best tone for a difficult customer interaction?

A. Calm, respectful, factual, and within the worker’s authority.

B. Argumentative and certain about unverified causes.

C. Dismissive because the work order is technical.

D. Promising every requested outcome immediately.

83. In a final restoration check before shift change, what does closed-loop communication require?

A. A single vague statement shouted across traffic.

B. The instruction is stated, understood, acknowledged, and confirmed when completed.

C. Assuming silence means agreement.
D. Changing the plan without informing the crew.

84. When should a worker escalate a concern?

A. Only after an injury occurs.
B. Never, because escalation delays the job.
C. When the condition, risk, or decision exceeds the worker’s authority or the plan’s assumptions.
D. After changing the field condition without reporting it.

85. In a final restoration check before shift change, which field record is most useful to the next crew?

A. A short statement that says only “completed.”
B. A factual account of the asset, condition, action, verification, and remaining concern.
C. A list of opinions without measurements or identifiers.
D. A record that omits temporary controls.

86. In a final restoration check before shift change, what is the best response after a worker damages a fitting accidentally?

A. Hide the damage and continue with the original plan.
B. Blame another worker before controlling the area.
C. Stop, protect the system, notify the supervisor, and document the condition honestly.
D. Leave because the damage seems minor.

87. A supervisor’s plan conflicts with an observed immediate hazard. What should the worker do?

A. State the observation, apply immediate protection, and request direction before continuing.
B. Ignore the hazard because the plan came first.
C. Argue without protecting the area.
D. Continue and mention it only in the final record.

88. In a final restoration check before shift change, what does staying within authority mean during public contact?

A. Answer every question from personal opinion.
B. Make promises on behalf of another department.
C. Refuse all communication because policy is complex.
D. Provide confirmed task information and refer policy, billing, health, or legal decisions properly.

89. In a final restoration check before shift change, which choice best represents situational judgment?

A. Choose a dramatic repair before identifying the hazard.
B. Control the immediate risk, verify the condition, communicate, and then perform the authorized task.
C. Collect paperwork while people remain exposed.
D. Select the fastest action regardless of evidence.

90. Why should a worker distinguish observation from interpretation?

A. Interpretations are always more useful than facts.
B. A conclusion becomes true when recorded.
C. Facts can be checked, while interpretations may require another authorized evaluation.
D. Neutral records prevent any future decision.

91. A service route measures 408 inches. What is that length in feet?

A. 34 feet
B. 33 feet
C. 35 feet
D. 36 feet

92. A rectangular excavation section is 6 feet long, 5 feet wide, and 3 feet deep. What is its volume?

A. 30 cubic feet
B. 90 cubic feet
C. 18 cubic feet
D. 15 cubic feet

93. An authorized discharge moves 125 gallons at 25 gallons per minute. How long does it take?

A. 4 minutes
B. 6 minutes
C. 7 minutes
D. 5 minutes

94. A measured flow of 255 units increases by 25 percent. What is the new flow?

A. 318.75 units
B. 191.25 units
C. 280 units
D. 328.75 units

95. A rectangular work area is 4 feet long and 4 feet wide. What is its area?

A. 8 square feet
B. 20 square feet
C. 12 square feet
D. 16 square feet

96. Water moves at 25 units of flow through a cross-sectional area of 5 square units. What is average velocity?

A. 125 flow units per square unit
B. 30 flow units per square unit
C. 5 flow units per square unit
D. 1 flow units per square unit

97. A gauge reads 122 pressure units upstream and 56 downstream. What is the difference?

A. 66 pressure units
B. 178 pressure units
C. -66 pressure units
D. 71 pressure units

98. A material mix uses 6 equal parts. If one part contains 5 units, how many units are in 3 parts?

A. 8 units
B. 30 units
C. 21 units
D. 15 units

99. A pump moves water at 20 gallons per minute for 6 minutes. How many gallons move?

A. 26 gallons
B. 100 gallons
C. 120 gallons
D. 140 gallons

100. A contained volume is 3 cubic feet. Using 7.48 gallons per cubic foot, what is the approximate volume?

A. 19.44 gallons

B. 22.44 gallons

C. 10.48 gallons

D. 29.92 gallons

Practice Exam 31: Answer Key and Explanations

1. C — Trace the asset, flow path, isolation boundary, and public consequence. is correct: Distribution work must be understood as a connected network. A local action can change pressure, flow, service, and public exposure elsewhere. Other choices They skip system identification, connected effects, or timely planning. Verify conditions, follow procedure, and record closeout.

2. B — Supply water to connected services and appurtenances within the network. is correct: A distribution main conveys water through the service network. Its function explains why breaks, valves, services, and hydrants are operationally connected. Other choices They confuse conveyance with storage, measurement, or treatment. Verify conditions, follow procedure, and record closeout.

3. D — Pause, protect the area, and report the discrepancy before operating or excavating. is correct: Field verification takes priority over an unconfirmed record. An incorrect asset decision can create pressure, outage, excavation, or public hazards. Other choices They replace verification with assumption, force, or undocumented correction. Verify conditions, follow procedure, and record closeout.

4. A — A valve, hydrant, meter, or other connected operating device. is correct: Appurtenances make the distribution network operable and maintainable. They provide control, access, measurement, discharge, or other functions tied to the system. Other choices They confuse physical surroundings or reports with connected equipment. Verify conditions, follow procedure, and record closeout.

5. C — It helps predict isolation, customer impact, and the expected system response. is correct: Valve position is an operational fact that supports planning. The expected response depends on the valve, connected lines, and conditions in the field. Other choices They treat position as proof of operation or as a substitute for other controls. Verify conditions, follow procedure, and record closeout.

6. B — It records the asset, condition, work performed, verification, and follow-up needs. is correct: Closeout preserves operational memory and accountability. Future crews may rely on the record when the condition is no longer visible. Other choices They confuse departure, inventory, or deletion with a useful record. Verify conditions, follow procedure, and record closeout.

7. A — Stop at the safe boundary, protect the area, communicate, and revise the plan. is correct: Changed conditions require renewed hazard and authorization review. The original plan may no longer control the actual exposure or technical problem. Other choices They prioritize speed, concealment, or force over reassessment. Verify conditions, follow procedure, and record closeout.

8. D — They clarify who directs, operates, observes, communicates, and records the action. is correct: Shared roles create coordinated situational awareness. Critical operations become safer when instructions and observations have clear owners. Other choices They replace coordination with duplication, silence, or inappropriate delegation. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

9. C — Protect the area, provide confirmed information, and communicate through the proper channel. is correct: Public service combines safety, factual communication, and proper boundaries. Customers need useful information without unsupported promises or accusations. Other choices They introduce speculation, conflict, or authority beyond the assignment. Verify conditions, follow procedure, and record closeout.

10. D — A connection carrying potable water from a main toward a meter or customer point. is correct: Service lines connect the distribution main to the customer connection. The route, material, control points, and boundary determine how service work is handled. Other choices They substitute drainage equipment, tools, or roadway facilities for a water connection. Verify conditions, follow procedure, and record closeout.

11. B — The service identity, route, control points, material, and customer-side boundary. is correct: Service repairs begin with identification and boundary verification. The visible symptom may be away from the defect, and material affects the repair method. Other choices They rely on appearance or one incomplete observation. Verify conditions, follow procedure, and record closeout.

12. A — To provide local control of water flow to a service connection. is correct: A service stop provides localized shutoff capability. Local control can limit the affected area and protect a service repair. Other choices They confuse control with measurement, traffic protection, or main isolation. Verify conditions, follow procedure, and record closeout.

13. A — Future workers need to locate and operate the control without unnecessary excavation. is correct: Access is part of an asset’s function. A buried or blocked control delays maintenance and can enlarge an emergency. Other choices They assign hydraulic, measurement, or customer-plumbing effects to an access structure. Verify conditions, follow procedure, and record closeout.

14. D — Match size, material, pressure rating, joint method, and approved requirements. is correct: Fittings must be compatible with the actual connection. A convenient part can still fail if its dimensions, rating, or joint method do not match. Other choices They replace compatibility with price, appearance, or an unrelated repair method. Verify conditions, follow procedure, and record closeout.

15. B — Treat the service as pressurized until the cause is investigated and controlled. is correct: Handle position alone does not prove pressure has been relieved. Residual flow may reflect incomplete closure, another path, or a different source. Other choices They substitute assumption or immediate disassembly for pressure control. Verify conditions, follow procedure, and record closeout.

16. C — Inspect the repair, check the surrounding condition, and confirm the approved restoration steps. is correct: The repair should be checked before it becomes inaccessible. Inspection and controlled

restoration reduce the chance of burying a defect. Other choices They reverse inspection, operation, and documentation. Verify conditions, follow procedure, and record closeout.

17. C — Acknowledge the concern and refer it through the appropriate service channel. is correct: Workers must respect assignment and customer boundaries. A useful referral preserves service while preventing unauthorized work or promises. Other choices They exceed authority or fail to communicate professionally. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

18. A — The asset identity, location, symptom, timing, and conditions that can be verified. is correct: Good service investigation separates observation from conclusion. Specific facts support the correct repair, referral, and record. Other choices They introduce blame, speculation, or unsupported guarantees. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

19. B — The line's function, pressure condition, connected services, isolation options, and hazards. is correct: A main is a pressure-bearing network asset. Its size, connections, and operating condition determine consequence and control. Other choices They rely on surface appearance, preference, or one symptom. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

20. D — Pressure forces at the change in direction need a designed path for restraint. is correct: Geometry creates thrust that must be resisted. Restraint or designed support protects joints and connected pipe from movement. Other choices They deny pressure forces or substitute paint and uncontrolled soil. Verify conditions, follow procedure, and record closeout.

21. D — Materials differ in joining, handling, damage, corrosion, and compatibility requirements. is correct: Material characteristics affect safe construction and maintenance. A method suitable for one pipe may damage another or produce an unreliable joint. Other choices They assume uniform behavior or rely on appearance. Verify conditions, follow procedure, and record closeout.

22. C — To distribute support and help maintain line, grade, and load transfer. is correct: Bedding supports the pipe and controls point loading. Hidden defects in the base can produce movement or damage after backfill. Other choices They assign sealing, traffic, or alignment-replacement functions to bedding. Verify conditions, follow procedure, and record closeout.

23. A — It lets the gasket, fitting, and pipe share load without forced distortion. is correct: Alignment supports uniform sealing and structural performance. Forcing a misaligned connection can damage the joint even when it appears tight. Other choices They treat bolts or inspection avoidance as substitutes for geometry. Verify conditions, follow procedure, and record closeout.

24. B — Surface loading, impact, settlement effects, and exposure of the buried pipe. is correct: Cover is part of buried-pipe protection. The required depth and backfill condition depend on the approved design and site use. Other choices They overstate cover or confuse it with operation and locating. Verify conditions, follow procedure, and record closeout.

25. A — Water can travel through soil and emerge away from the pressure-boundary defect. is correct: Leak investigation must account for underground flow paths. Tracing evidence before excavation reduces wrong-asset work and unnecessary exposure. Other choices They treat surface location as exact proof. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

26. B — The observed deterioration and the need for review or follow-up. is correct: Visible deterioration can change the risk and repair plan. Accurate escalation lets the responsible authority decide the broader response. Other choices They hide, ignore, or expand work without authority. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

27. D — It solves a defined connection problem only when dimensions, material, and restraint needs match. is correct: Couplings have design limits. The selected product must fit the actual pipe condition and force arrangement. Other choices They treat a coupling as universal, self-supporting, or a substitute for alignment. Verify conditions, follow procedure, and record closeout.

28. C — Separating a line segment from pressure or flow for authorized work. is correct: Isolation is a primary operational valve function. The worker still must identify the valve and verify its effect in the field. Other choices They confuse isolation with measurement, traffic control, or universal flushing. Verify conditions, follow procedure, and record closeout.

29. B — Stop, maintain control, and investigate the cause instead of adding uncontrolled force. is correct: Resistance is information about the asset or condition. Force can damage stems, gears, seats, or the pressure boundary. Other choices They respond to uncertainty with force or assumption. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

30. C — It governs the hydrant's connection to the pressurized main. is correct: Hydrant operation depends on both the outlet and main connection. A worker must understand the full assembly before flow is started or stopped. Other choices They assign measurement, hardware, or traffic functions to the controlling valve. Verify conditions, follow procedure, and record closeout.

31. A — The discharge route, drainage, erosion control, traffic protection, and authorized rate of operation. is correct: Hydrant flow affects the surrounding area as well as the pipe. Uncontrolled discharge can flood, erode, or expose the public. Other choices They ignore water movement, public protection, or procedure. Verify conditions, follow procedure, and record closeout.

32. D — Match the meter to the correct asset, read the register, and record the observed condition. is correct: Measurement depends on correct asset identity and observation. A precise number attached to the wrong meter is still an inaccurate record. Other choices They separate numbers from identity, evidence, and integrity. Verify conditions, follow procedure, and record closeout.

33. A — A maintenance and access problem requiring documentation and an approved response. is correct: Access condition is part of meter-system readiness. The worker should document the

obstruction and follow the responsible process. Other choices They draw unsupported conclusions or exceed authority. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

34. D — Secure the area, document observed facts, and notify the responsible channel. is correct: Tamper concerns require neutral evidence handling. The authorized process determines responsibility; the field worker preserves facts and safety. Other choices They introduce accusation, evidence disturbance, or neglect. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

35. C — A missing or damaged cap can affect serviceability, leakage, and public safety. is correct: Hydrant parts have distinct protection and operating roles. Inspection looks at the assembly and surrounding exposure, not one function only. Other choices They assign unrelated hydraulic, traffic, or measurement functions. Verify conditions, follow procedure, and record closeout.

36. B — It checks location, access, condition, and the ability to reach the operating point. is correct: An operating point must be accessible and identifiable. Physical inspection supports future operation but does not prove every hydraulic condition. Other choices They turn access evidence into unsupported operational proof. Verify conditions, follow procedure, and record closeout.

37. D — To create a pressure-tight and structurally suitable connection between components. is correct: A joint is both a sealing and connection problem. Its performance depends on fit, alignment, sealing, restraint, and inspection. Other choices They reduce the joint to traffic, support, or universal compatibility. Verify conditions, follow procedure, and record closeout.

38. A — Even loading helps compress the gasket and gland uniformly around the pipe. is correct: Uniform compression supports a reliable mechanical seal. Uneven loading can distort the assembly or leave a leak path. Other choices They endorse uneven force or deny the connection between loading and sealing. Verify conditions, follow procedure, and record closeout.

39. B — It helps resist axial movement or separation caused by pressure and geometry. is correct: Restraint transfers or resists forces at the connection. Bends, tees, reducers, and dead ends may require attention to movement. Other choices They confuse structural restraint with safety, measurement, or alignment. Verify conditions, follow procedure, and record closeout.

40. C — Replace or handle it according to the approved procedure before assembly. is correct: A gasket must be compatible, clean, and intact. Compression cannot reliably correct a damaged or contaminated sealing element. Other choices They rely on concealment, improvisation, or orientation tricks. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

41. B — Correct pipe support or position so the faces align without drawing them together by bolts. is correct: Alignment should precede tightening. Forcing a flange can damage faces, gaskets, bolts, or connected pipe. Other choices They use fastener force or sealant to hide bad geometry. Verify conditions, follow procedure, and record closeout.

42. A — It can damage the threads and prevent a reliable pressure seal. is correct: Threaded joints depend on compatible, undamaged engagement. A damaged thread can leak or fail when pressure or torque is applied. Other choices They treat damage as improvement or as permission to skip inspection. Verify conditions, follow procedure, and record closeout.

43. C — The joint can accommodate only the movement or transition allowed by its design. is correct: Flexible products still have defined limits. Movement allowance does not erase dimension, support, or restraint requirements. Other choices They turn a limited feature into universal permission. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

44. D — Inspect, test as required, repressurize gradually, observe, restore, and document. is correct: Return to service is a verification phase. Gradual restoration reveals leakage or movement while the crew can still respond. Other choices They reverse testing, observation, and documentation. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

45. D — Dirt or damage can prevent the gasket or sealing surface from performing. is correct: Sealing surfaces require controlled condition and cleanliness. Contamination can create a leak path or introduce unwanted material into the system. Other choices They assign protective value to dirt or appearance alone. Verify conditions, follow procedure, and record closeout.

46. B — The task, material, access, force, energy source, and required finish. is correct: Tool choice is a control decision. Matching capability to the task reduces damage, kickback, and unnecessary exposure. Other choices They substitute size, habit, or inspection avoidance for fit. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

47. C — Inspect guards, controls, cord or hose, handles, and the tool's operating condition. is correct: Safety features are part of tool readiness. A tool that runs can still be unsafe because a guard or control is defective. Other choices They reduce inspection to startup or remove a protection. Verify conditions, follow procedure, and record closeout.

48. A — It can create stored-energy, whip, trip, and movement hazards. is correct: Compressed air is a stored-energy source. Connection, placement, and depressurization control the exposure. Other choices They ignore energy, fitting security, or timing. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

49. B — Pointing it at a person or using it to clean skin or clothing. is correct: Air can propel particles and injure tissue. The safe practice controls direction, pressure, connection, and stored energy. Other choices They confuse controlled equipment use with direct-body exposure. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

50. C — Where will the discharge go, and can it erode soil or affect people and property? is correct: Dewatering changes the surrounding environment. Discharge can undermine a trench, flood a property,

or carry sediment. Other choices They ignore downstream effects and rely on irrelevant features. Verify conditions, follow procedure, and record closeout.

51. D — Combustion exhaust can create a carbon-monoxide hazard and ventilation reduces exposure. is correct: Generators create exhaust as well as electrical and fuel hazards. Placement and airflow must be considered with the load and work area. Other choices They minimize exhaust or treat a small opening as universal control. Verify conditions, follow procedure, and record closeout.

52. A — Shut down and control the energy before reaching into or adjusting the equipment. is correct: Moving equipment must be isolated before hands enter the hazard zone. A blockage can release stored motion or restart unexpectedly. Other choices They allow contact with energized or moving equipment. Verify conditions, follow procedure, and record closeout.

53. B — Use approved cords, loads, placement, and electrical procedures without improvised backfeed. is correct: Portable power must be controlled as an electrical and exhaust hazard. Approved connections and placement reduce shock, fire, and carbon-monoxide risks. Other choices They endorse improvised wiring, poor placement, or damaged equipment. Verify conditions, follow procedure, and record closeout.

54. A — Adjustment, clearing, refueling, and movement often expose workers to stored energy. is correct: Energy control continues through the entire task sequence. Many injuries occur during non-routine handling rather than normal operation. Other choices They treat speed or normal operation as protection. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

55. D — Rain, seepage, vibration, surcharge, cracking, or changed soil conditions. is correct: Excavation stability changes with conditions inside and around the cut. Water and external loads can weaken soil or add force to the trench wall. Other choices They cite unrelated administrative or cosmetic conditions. Verify conditions, follow procedure, and record closeout.

56. C — To reduce worker exposure to cave-ins through sloping, shoring, shielding, or an approved method. is correct: Protective systems address ground-failure exposure within defined limits. The system must be selected and used for the actual excavation condition. Other choices They turn one control into universal protection. Verify conditions, follow procedure, and record closeout.

57. B — It protects only the area within the shield when properly placed and used. is correct: Shielding has a defined protected zone. Workers and equipment must remain within the system’s limits and applicable procedure. Other choices They expand protection beyond its actual scope. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

58. C — Recognize hazards, inspect conditions, and direct corrective action under the applicable rule. is correct: Excavation inspection requires appropriate knowledge and authority. The competent person evaluates changing conditions and protective measures. Other choices They assign unrelated or

unlimited responsibilities. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

59. A — Workers need a usable route to enter, move, and leave the excavation safely. is correct: A route is a safety control only when it can be used. Blocked or misplaced access delays evacuation and increases exposure. Other choices They confuse movement access with ground support or inspection. Verify conditions, follow procedure, and record closeout.

60. D — Workers leave the exposure and the condition is evaluated before reentry. is correct: A new ground-failure indicator requires immediate control. Evacuation and evaluation prevent workers from remaining in a changed hazard. Other choices They prioritize completion, superficial marking, or closer exposure. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

61. A — Records, marks, and information that guide cautious exposure and coordination. is correct: Locating reduces uncertainty but does not remove excavation responsibility. Records may be incomplete, and exposed facilities still need protection. Other choices They treat locating as a guarantee or a substitute for care. Verify conditions, follow procedure, and record closeout.

62. D — Stop, protect it, and coordinate verification or conflict resolution before continuing. is correct: Unexpected facilities create a new protection and coordination problem. Continuing without verification can disrupt service or create injury and property risk. Other choices They disturb, cut, or conceal an unverified facility. Verify conditions, follow procedure, and record closeout.

63. C — They can add surcharge, fall into the cut, or affect wall stability and access. is correct: Loads around an excavation affect exposure and stability. Placement must follow the applicable rule, design, and site plan. Other choices They treat edge loading as protective or irrelevant. Verify conditions, follow procedure, and record closeout.

64. B — Identify the hazard and apply feasible isolation, guarding, distance, or work controls. is correct: PPE is one layer in a hazard-control plan. The primary exposure should be reduced before relying on personal equipment. Other choices They use PPE as universal protection or select by habit. Verify conditions, follow procedure, and record closeout.

65. D — Drivers, pedestrians, and workers need a protected and understandable path around the task. is correct: Traffic control separates moving people and vehicles from the activity area. Early setup prevents workers from creating an unprotected exposure. Other choices They delay controls, minimize the plan, or surrender the work zone. Verify conditions, follow procedure, and record closeout.

66. C — A visible position, clear signal, protected escape path, and authority to stop movement. is correct: Backing and movement control depend on communication and escape space. A guide cannot protect the operation if the guide is unseen or trapped. Other choices They create struck-by and communication hazards. Verify conditions, follow procedure, and record closeout.

67. A — The vehicle stops until communication and a clear path are reestablished. is correct: Lost visibility removes a critical movement control. Stopping prevents a blind movement from becoming a

collision or edge exposure. Other choices They substitute memory, mirrors, or untrained public assistance. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

68. B — Tie-downs, restraints, attachment points, and the condition of the load. is correct: Load security affects stability and dropped-object risk. The inspection must address the vehicle's entire assignment, including cargo and attachments. Other choices They cite cosmetic or unrelated personal information. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

69. A — It helps make workers more conspicuous to approaching drivers and equipment operators. is correct: Visibility supports but does not replace separation and control. Workers still need an organized work zone, communication, and escape path. Other choices They overstate visibility or treat it as a physical barrier. Verify conditions, follow procedure, and record closeout.

70. D — Assess weight, path, footing, grip, assistance, and mechanical options before lifting. is correct: Load control depends on planning and stable body position. Awkward movement and sudden shifts increase strain and dropped-load risk. Other choices They normalize force, twisting, or isolation from assistance. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

71. C — State the location, condition, exposure, immediate control, and needed follow-up. is correct: Specific reporting supports correction and accountability. Another worker or supervisor needs enough information to act on the hazard. Other choices They provide vague, accusatory, or delayed information. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

72. B — Its movement, load, and surcharge can affect the edge, workers, and escape path. is correct: Vehicle placement is part of excavation and traffic planning. Distance, ground condition, visibility, and movement must be considered together. Other choices They deny load effects or prioritize convenience. Verify conditions, follow procedure, and record closeout.

73. B — The expected pressure, flow, or other approved indication of the isolated condition. is correct: Isolation is a verified system condition. A valve can be misidentified, partially closed, damaged, or bypassed by another path. Other choices They replace hydraulic evidence with appearance, paperwork, or public observation. Verify conditions, follow procedure, and record closeout.

74. A — Flushing moves unwanted water or debris; disinfection follows a controlled microbial-treatment procedure. is correct: Operational and water-quality steps have different purposes. The required sequence and verification depend on the current procedure and job. Other choices They collapse distinct processes or assign an unrelated function. Verify conditions, follow procedure, and record closeout.

75. D — A possible link between potable water and a nonpotable source under pressure conditions. is correct: Cross-connection risk depends on pathway and pressure relationship. Backflow can draw or

force unwanted material into potable water. Other choices They ignore the connection or confuse unrelated observations. Verify conditions, follow procedure, and record closeout.

76. C — Open ends can admit soil, oils, chemicals, organisms, or other contaminants. is correct: Clean openings support water-quality protection. A mechanical repair can still create a water-quality problem if the assembly is contaminated. Other choices They substitute measurement, pressure, or dirty materials for protection. Verify conditions, follow procedure, and record closeout.

77. D — Location, timing, operation, appearance, customer report, and facts that can be verified. is correct: Water-quality observations should remain factual and traceable. Authorized personnel and procedures determine interpretation and response. Other choices They make unsupported health, cause, or blame conclusions. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

78. C — Protect people and the public while establishing control of the water and work area. is correct: Emergency response begins with life and public safety. Flow, flooding, traffic, and excavation risks can worsen while the technical plan develops. Other choices They place repair speed or information completeness above immediate protection. Verify conditions, follow procedure, and record closeout.

79. B — It allows the crew to observe the joint and surrounding system for leakage or movement. is correct: Controlled restoration reveals problems while intervention remains possible. Abrupt changes can create surges and leave a defect undiscovered. Other choices They deny pressure effects or limit the practice to an unrelated device. Verify conditions, follow procedure, and record closeout.

80. A — The current utility procedure and applicable regulatory or project requirements. is correct: Water-quality release criteria are job and rule dependent. Current procedures define sequence, samples, results, and authorization. Other choices They replace controlling requirements with memory, appearance, or pressure. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

81. D — Accurate records help future crews understand asset condition, operation, and unresolved risk. is correct: Information is part of operational integrity. Buried assets and repeating defects require memory beyond one shift. Other choices They limit records to billing or treat deletion as improvement. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

82. A — Calm, respectful, factual, and within the worker's authority. is correct: Professional communication supports cooperation and safe work. Customers need clear boundaries and confirmed information, not speculation or conflict. Other choices They use hostility, dismissal, or unsupported promises. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

83. B — The instruction is stated, understood, acknowledged, and confirmed when completed. is correct: Critical actions need shared understanding. Confirmation reduces wrong-asset operations, timing errors, and missed stop signals. Other choices They substitute volume, assumption, or secrecy for

communication. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

84. C — When the condition, risk, or decision exceeds the worker's authority or the plan's assumptions. is correct: Early escalation protects the crew and preserves control. A changed or uncertain condition may require different expertise, equipment, or authorization. Other choices They delay, suppress, or act before communicating. Verify conditions, follow procedure, and record closeout.

85. B — A factual account of the asset, condition, action, verification, and remaining concern. is correct: Records should allow another worker to reconstruct the event. Specific information supports safe continuation and follow-up. Other choices They provide vague, subjective, or incomplete handoffs. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

86. C — Stop, protect the system, notify the supervisor, and document the condition honestly. is correct: Integrity makes a problem visible early enough to correct. Prompt control and truthful reporting reduce further damage and preserve accountability. Other choices They conceal, blame, or abandon the unresolved hazard. Verify conditions, follow procedure, and record closeout.

87. A — State the observation, apply immediate protection, and request direction before continuing. is correct: Field evidence must be communicated and controlled. Respectful escalation protects people while keeping the work organized. Other choices They choose blind obedience, argument, or delayed reporting. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

88. D — Provide confirmed task information and refer policy, billing, health, or legal decisions properly. is correct: Authority boundaries protect accuracy and trust. A worker can be helpful without inventing a decision or refusing a proper referral. Other choices They overreach, speculate, or withdraw unnecessarily. Verify conditions, follow procedure, and record closeout.

89. B — Control the immediate risk, verify the condition, communicate, and then perform the authorized task. is correct: Judgment is an ordered response to changing evidence. The sequence reduces exposure and creates a defensible decision. Other choices They put technical drama, paperwork, or speed before safety. Verify conditions, follow procedure, and record closeout.

90. C — Facts can be checked, while interpretations may require another authorized evaluation. is correct: Accurate records separate evidence from conclusions. This distinction reduces blame, supports review, and improves follow-up. Other choices They confuse writing with proof or treat neutrality as inaction. Verify conditions, follow procedure, and record closeout. That sequence protects people, the asset, and the drinking-water system.

91. A — 34 feet is correct: the conversion factor is twelve inches per foot. 408 divided by twelve equals 34 feet. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The units cancel from inches to feet. That sequence protects people, the asset, and the drinking-water system.

92. B — 90 cubic feet is correct: rectangular volume equals length multiplied by width and depth. Multiplying 6, 5, and 3 gives 90 cubic feet. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. All three dimensions must be included. That sequence protects people, the asset, and the drinking-water system.

93. D — 5 minutes is correct: time equals total volume divided by the flow rate. Dividing 125 gallons by 25 gallons per minute gives 5 minutes. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The gallon units cancel, leaving minutes. That sequence protects people, the asset, and the drinking-water system.

94. A — 318.75 units is correct: an increase uses the original value multiplied by one plus the decimal percentage. 255 multiplied by 1.25 equals 318.75 units. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The original measurement is the percentage base. That sequence protects people, the asset, and the drinking-water system.

95. D — 16 square feet is correct: rectangle area equals length multiplied by width. Multiplying 4 by 4 gives 16 square feet. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. Area uses two dimensions, not a third depth. That sequence protects people, the asset, and the drinking-water system.

96. C — 5 flow units per square unit is correct: average velocity equals flow divided by cross-sectional area. Dividing 25 by 5 gives 5 in the stated units. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The area is a divisor because the same flow is spread across it.

97. A — 66 pressure units is correct: the difference is the upstream reading minus the downstream reading. Subtracting 56 from 122 gives 66 pressure units. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The order follows the stated upstream-to-downstream comparison. That sequence protects people, the asset, and the drinking-water system.

98. D — 15 units is correct: a repeated-part quantity equals the amount per part multiplied by the number of parts. 5 multiplied by 3 equals 15 units. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The total number of available parts is not the requested quantity.

99. C — 120 gallons is correct: total volume equals flow rate multiplied by elapsed time. 20 gallons per minute for 6 minutes equals 120 gallons. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The minutes cancel the per-minute unit. That sequence protects people, the asset, and the drinking-water system.

100. B — 22.44 gallons is correct: the stated conversion multiplies cubic feet by gallons per cubic foot. Multiplying 3 by 7.48 gives approximately 22.44 gallons. Other choices use a different operation, reference value, or unit relationship. Verify conditions, follow procedure, and record closeout. The

conversion factor is supplied by the question. That sequence protects people, the asset, and the drinking-water system.