



# Solar Heating Installer Prep

Free Practice Test — 30 Real Exam-Style Questions

with full answer key & explanations

**Unlock the full bank of 505 questions  
+ unlimited timed mock exams + mistake book**

Practice on the web: <https://certs.theorypractice.app/solarheatinstall>

\$2.99 / week · \$6.99 / month · cancel anytime

**What you unlock: all 505 questions • unlimited timed mock exams • mistake book • instant explanations**

**Study offline on the free app — search your exam on the App Store or Google Play**



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



## Practice Questions

Try all 30 first, then check the answer key at the back.

Want the other 475+ questions & full timed mock exams? Unlock at  
<https://certs.theorypractice.app/solarheatinstall>

**1. Which step should be performed first when commissioning a newly installed solar heating system?**

- A. Activate the circulation pump
- B. Program the controller settings
- C. Conduct a customer walk-through
- D. Pressure test the system for leaks

**2. What is the primary purpose of verifying flow rates during solar heating system commissioning?**

- A. To determine warranty eligibility
- B. To calculate the customer's utility bill
- C. To ensure proper heat transfer from collectors to storage
- D. To set the controller's clock

**3. When programming a differential temperature controller during commissioning, what is the typical collector-to-tank temperature differential setting to activate the pump?**

- A. 1-2°F
- B. 8-10°F
- C. 20-25°F
- D. 30-40°F

Study offline on the free app — search your exam on the App Store or Google Play

**4. Which document should be completed and provided to the customer during the final walk-through of a newly commissioned solar heating system?**

- A. System owner's manual with operation instructions
- B. Installer's personal resume
- C. Manufacturing facility blueprint
- D. Local climate data records



Unlock all 505 questions + timed mock exams

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



**5. What should an installer check when verifying sensor placement during system commissioning?**

- A. Brand name visibility
- B. Sensor color coding only
- C. Manufacturing date of the sensors
- D. Proper contact with the surface and secure attachment

**6. During commissioning, what is the purpose of running the circulation pump manually?**

- A. To increase system pressure temporarily
- B. To drain the system completely
- C. To verify proper pump operation and system circulation
- D. To test the backup electric heating element

Want the other 475+ questions & full timed mock exams? Unlock at <https://certs.theorypractice.app/solarheatinstall>

**7. What information should be recorded on the system commissioning report?**

- A. Customer's annual income
- B. Flow rates, pressure readings, temperature differentials, and controller settings
- C. Installer's personal contact information only
- D. Local weather forecast for the next month

**8. When should the heat transfer fluid pH be tested during the commissioning process?**

- A. After filling the system but before final operation
- B. Only during annual maintenance
- C. Only if the system overheats
- D. Only during winter months

**9. What should an installer demonstrate to the customer during the final walk-through of a solar heating system?**

- A. How to reprogram the manufacturer's software
- B. How to reinstall the entire system
- C. How to manufacture replacement parts
- D. Controller operation, maintenance procedures, and emergency shutdown

Study offline on the free app — search your exam on the App Store or Google Play



Unlock all 505 questions + timed mock exams

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



**10. What is the purpose of checking the antifreeze concentration during system commissioning in cold climates?**

- A. To increase system pressure
- B. To improve system efficiency only
- C. To ensure freeze protection to the specified temperature
- D. To change the fluid color for identification

**11. Which safety feature should be verified during the commissioning of a pressurized glycol solar heating system?**

- A. Window positions in the building
- B. Pressure relief valve operation
- C. Homeowner's insurance policy
- D. Roof access ladder stability

**12. What should be checked when verifying controller operation during system commissioning?**

- A. Sensor readings, differential settings, and pump activation
- B. Controller color and appearance
- C. Manufacturing location only
- D. Controller weight and dimensions

**Want the other 475+ questions & full timed mock exams? Unlock at**  
<https://certs.theorypractice.app/solarheatinstall>

**13. When commissioning a solar water heating system, how can an installer verify that the collector loop is free of air?**

- A. By measuring the building's electricity usage
- B. By measuring the water tank temperature only
- C. By checking the color of the solar collectors
- D. By monitoring pressure gauge stability during operation

**14. What documentation should be submitted to local authorities after commissioning a solar heating system?**

- A. Installer's personal logbook
- B. Customer satisfaction survey
- C. Completed permit documents and inspection request forms
- D. Manufacturing quality control reports



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



**15. When is the appropriate time to remove warning tags and labels during the commissioning process?**

- A. Immediately upon installation
- B. After all testing is complete and the system is fully operational
- C. Before pressure testing begins
- D. Before the customer arrives for walkthrough

Study offline on the free app — search your exam on the App Store or Google Play

**16. What is a critical check when commissioning a drain-back solar heating system?**

- A. Verify complete drainage of collectors when the pump stops
- B. Check roof color for heat absorption
- C. Measure homeowner's water usage patterns
- D. Test household electrical voltage

**17. During the final walk-through with the customer, what information should be provided regarding system maintenance?**

- A. Local weather patterns for the past decade
- B. Names of other customers with similar systems
- C. The installer's personal vacation schedule
- D. A maintenance schedule with specific tasks and their frequency

**18. What should be verified about system labeling during commissioning?**

- A. All labels use fluorescent colors only
- B. Labels are in multiple languages even if not required
- C. Required labels for system identification, fluid type, and emergency procedures are permanently affixed and visible
- D. Labels include the installer's home address

Want the other 475+ questions & full timed mock exams? Unlock at  
<https://certs.theorypractice.app/solarheatinstall>

**19. What test should be performed to verify the high-limit function of a solar controller during commissioning?**

- A. Disconnect the power to see if backup batteries work
- B. Artificially increase the temperature sensor reading to verify pump deactivation
- C. Paint the controller a different color
- D. Replace the controller with a different model



Unlock all 505 questions + timed mock exams

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



**20. What performance verification should be documented during the commissioning of a solar water heating system?**

- A. Temperature rise in the storage tank during sunny conditions
- B. Number of occupants in the building
- C. Local electricity grid fluctuations
- D. Customer's previous utility bills

**21. What is the primary purpose of pressure testing a solar heating system during installation?**

- A. To test the controller functionality
- B. To verify the pump is sized correctly
- C. To calibrate temperature sensors
- D. To identify leaks in the piping system

**Study offline on the free app — search your exam on the App Store or Google Play**

**22. When mounting solar collectors on a sloped roof, what is the minimum recommended distance between the collector and the roof edge?**

- A. 5 feet
- B. 1 foot
- C. 3 feet
- D. 8 feet

**23. Which type of insulation is best suited for solar loop piping that reaches temperatures above 250°F?**

- A. Standard foam pipe insulation
- B. High-temperature mineral wool insulation
- C. Fiberglass batts
- D. Cellular polyethylene

**24. When installing an expansion tank in a glycol-based solar heating system, where should it be positioned?**

- A. On the cold return line
- B. At the highest point in the system
- C. Directly after the collectors
- D. Immediately before the pump



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



Want the other 475+ questions & full timed mock exams? Unlock at  
<https://certs.theorypractice.app/solarheatinstall>

**25. What is the recommended method for securing solar collector mounting hardware to a shingle roof?**

- A. Ballasted mounting only
- B. Adhesive mounting pads
- C. J-hooks attached to gutters
- D. Lag screws driven into roof rafters

**26. What personal protective equipment (PPE) is most critical when working with glycol-based heat transfer fluids?**

- A. Hearing protection
- B. Steel-toed boots
- C. Chemical-resistant gloves and eye protection
- D. Respiratory protection

**27. When connecting copper piping in a solar loop, which joining method offers the most reliable high-temperature performance?**

- A. Push-to-connect fittings
- B. Silver soldering (brazing)
- C. Standard soft solder
- D. Compression fittings

Study offline on the free app — search your exam on the App Store or Google Play

**28. What is the proper sequence for filling a closed-loop solar heating system?**

- A. Close the system, create a vacuum, introduce heat transfer fluid, pressurize
- B. Open all valves, add fluid, close valves, pressurize
- C. Pressurize the system, add fluid, release pressure, close valves
- D. Add fluid at the highest point, open all air vents, close system

**29. What safety device must be installed on a closed-loop solar heating system to protect against excessive pressure?**

- A. Vacuum breaker
- B. Flow check valve
- C. Mixing valve
- D. Pressure relief valve



Unlock all 505 questions + timed mock exams

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



**30. When installing a solar storage tank, what should be verified before connection to the solar loop?**

- A. The manufacturing date
- B. The tank's warranty period
- C. The tank's pressure rating
- D. The tank's color coding



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start



## Answer Key & Explanations

You just practised 30 of 505. Unlock every question + timed mocks at  
<https://certs.theorypractice.app/solarheatinstall>

**1. D — Pressure test the system for leaks**

Pressure testing the system is the first critical step in commissioning to ensure there are no leaks before introducing the heat transfer fluid and operating the system.

**2. C — To ensure proper heat transfer from collectors to storage**

Verifying flow rates ensures proper heat transfer from the collectors to the storage tank, which is essential for system efficiency and performance.

**3. B — 8-10°F**

A differential of 8-10°F is typically used to activate the pump, providing enough temperature difference to ensure efficient heat transfer while preventing short cycling.

**4. A — System owner's manual with operation instructions**

The system owner's manual contains essential information about operation, maintenance, and troubleshooting that the customer needs to properly use and maintain their solar heating system.

**5. D — Proper contact with the surface and secure attachment**

Proper contact and secure attachment ensure accurate temperature readings, which are critical for system control and performance monitoring.

**6. C — To verify proper pump operation and system circulation**

Running the pump manually allows the installer to check for proper operation, unusual noises, vibration, leaks, and ensures the fluid is circulating correctly through the entire system.

**7. B — Flow rates, pressure readings, temperature differentials, and controller settings**

Flow rates, pressure readings, temperature differentials, and controller settings are all critical data points that document the system's initial performance parameters for future reference and troubleshooting.

**8. A — After filling the system but before final operation**

Testing the pH after the system is filled but before final operation ensures the fluid meets specifications and provides a baseline measurement for future maintenance checks.

**9. D — Controller operation, maintenance procedures, and emergency shutdown**

Demonstrating controller operation, maintenance procedures, and emergency shutdown provides the customer with essential knowledge to properly operate and maintain their system.

**10. C — To ensure freeze protection to the specified temperature**

Checking antifreeze concentration ensures freeze protection to the specified temperature, preventing system damage during cold weather operation.

**11. B — Pressure relief valve operation**

Pressure relief valve operation is critical to verify during commissioning as it protects the system from potentially dangerous over-pressure conditions.



Unlock all 505 questions + timed mock exams

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



**12. A — Sensor readings, differential settings, and pump activation**

Sensor readings, differential settings, and pump activation are all critical controller functions that ensure the system operates efficiently and safely.

**13. D — By monitoring pressure gauge stability during operation**

Monitoring pressure gauge stability indicates that air has been properly purged from the system, which is essential for efficient heat transfer and pump operation.

**14. C — Completed permit documents and inspection request forms**

Completed permit documents and inspection request forms are typically required by local authorities to verify code compliance and close out the permitting process.

**15. B — After all testing is complete and the system is fully operational**

Warning tags and labels should only be removed after all testing is complete and the system is fully operational to ensure safety throughout the commissioning process.

**16. A — Verify complete drainage of collectors when the pump stops**

Verifying complete drainage when the pump stops is essential for drain-back systems to prevent freezing damage during cold weather.

**17. D — A maintenance schedule with specific tasks and their frequency**

A maintenance schedule with specific tasks and their frequency gives customers clear guidance on how to properly maintain their system for optimal performance and longevity.

**18. C — Required labels for system identification, fluid type, and emergency procedures are permanently affixed and visible**

Required labels for system identification, fluid type, and emergency procedures must be permanently affixed and visible for safety and maintenance purposes.

**19. B — Artificially increase the temperature sensor reading to verify pump deactivation**

Artificially increasing the temperature sensor reading tests whether the high-limit function properly deactivates the pump to prevent overheating.

**20. A — Temperature rise in the storage tank during sunny conditions**

Documenting temperature rise in the storage tank during sunny conditions provides evidence of proper system operation and heat transfer.

**21. D — To identify leaks in the piping system**

Pressure testing is performed to identify and fix any leaks in the system before filling it with the heat transfer fluid. This ensures the system's integrity and prevents costly leaks after commissioning.

**22. C — 3 feet**

A minimum of 3 feet clearance from roof edges is recommended for safety during installation and maintenance, as well as to comply with most building codes and wind load considerations.

**23. B — High-temperature mineral wool insulation**

High-temperature mineral wool insulation is designed to withstand temperatures above 250°F without degrading, making it ideal for solar loop piping that can reach high stagnation temperatures.



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



**24. A — On the cold return line**

The expansion tank should be installed on the cold return line where temperatures are lower to protect the tank's diaphragm from high temperatures that could cause premature failure.

**25. D — Lag screws driven into roof rafters**

Lag screws driven into roof rafters provide the strongest and most secure attachment for solar collectors, ensuring they can withstand high winds and weather conditions.

**26. C — Chemical-resistant gloves and eye protection**

Chemical-resistant gloves and eye protection are essential when handling glycol-based heat transfer fluids to prevent skin irritation and potential eye damage from splashes.

**27. B — Silver soldering (brazing)**

Silver soldering (brazing) creates joints that can withstand the high temperatures experienced in solar heating systems, providing more reliability than standard soft solder or compression fittings.

**28. A — Close the system, create a vacuum, introduce heat transfer fluid, pressurize**

The proper sequence is to close the system, create a vacuum, introduce heat transfer fluid, and pressurize the system. This eliminates air pockets that could reduce system efficiency and cause pump cavitation.

**29. D — Pressure relief valve**

A pressure relief valve is a critical safety component that releases pressure if it exceeds safe levels, protecting the system from potential rupture or damage due to excessive pressure buildup.

**30. C — The tank's pressure rating**

The tank's pressure rating must be verified to ensure it can safely handle the maximum pressure that may occur in the solar heating system, preventing potential tank failure.



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start

Unofficial study material · not affiliated with any certifying body



# Ready to pass?

Unlock the full Solar Heating Installer Prep bank, every explanation, and unlimited timed mock exams.

**Scan to start practising**

<https://certs.theorypractice.app/solarheatinstall>

Also on iOS & Android — search your exam name on the App Store or Google Play



**Unlock all 505 questions + timed mock exams**

→ <https://certs.theorypractice.app/solarheatinstall>

\$2.99/week or \$6.99/month · cancel anytime · scan to start