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37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E

PRACTICE QUESTIONS

ARIZONA REGISTRAR OF CONTRACTORS

QXGUBWKM

AZ R-37 Plumbing, Including Solar (Residential)

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for ARIZONA REGISTRAR OF CONTRACTORS QXGUBWKM , each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, QXGUBWKM
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1

SINGLE CHOICE

What is the minimum slope required for a horizontal drainage pipe that is 3 inches in diameter?

- ☐ A 1/8 inch per foot
- ☒ B 1/4 inch per foot
- ☐ C 1/2 inch per foot
- ☐ D 1 inch per foot

ANSWER B

WHY Per the adopted plumbing code, horizontal drainage pipes 3 inches and larger must be installed at a minimum slope of 1/4 inch per foot. Smaller diameter pipes (under 3 inches) are permitted at 1/4 inch per foot as well, but the 1/4 inch per foot value is the standard minimum for 3-inch drainage pipe.

QUESTION 2

SINGLE CHOICE

A residential water heater relief valve discharge pipe must terminate in which of the following ways?

- ☐ A Directly into the home's drainage system through an air gap
- ☒ B Within 6 inches of the floor, pointing downward, with the end not threaded
- ☐ C Into a covered container
- ☐ D Vertically upward through the roof

ANSWER B

WHY The temperature and pressure (T&P) relief valve discharge pipe must terminate within 6 inches of the floor, point downward, and the end must not be threaded. This prevents scalding and allows safe discharge. Direct connection to drainage is not permitted because it could allow backflow contamination.

QUESTION 3

MULTIPLE CHOICE

Which of the following are required components of a typical closed-loop solar water heating system? (Choose two.)

- ☒ **A** Solar collector array
- ☐ **B** Expansion tank
- ☐ **C** Atmospheric vented storage tank only
- ☒ **D** Heat transfer fluid circulator pump

ANSWER A • D

WHY A closed-loop solar water heating system requires a solar collector array to capture solar energy and a heat transfer fluid circulator pump to move the fluid through the loop. An expansion tank is typically used in the potable side of an indirect system but is not the defining closed-loop component, and an atmospheric vented tank would not be appropriate in a closed pressurized loop.

QUESTION 4

SINGLE CHOICE

What is the maximum developed length permitted between the meter and the most remote plumbing fixture for a 1/2-inch cold water supply branch in a residential dwelling?

- ☐ **A** 25 feet
- ☒ **B** 50 feet
- ☐ **C** 75 feet
- ☐ **D** 100 feet

ANSWER B

WHY Per the fixture unit tables and developed length guidelines for residential water distribution, a 1/2-inch cold water branch is typically limited to approximately 50 feet of developed length before excessive pressure loss and inadequate delivery become concerns at fixtures.

QUESTION 5

SINGLE CHOICE

A water closet is connected to a vertical stack. What is the minimum diameter required for the soil or waste stack serving only water closets?

- ☐ A 2 inches
- ☒ B 3 inches
- ☐ C 4 inches
- ☐ D 6 inches

ANSWER B

WHY A soil or waste stack serving water closets must be at least 3 inches in diameter. Water closets have a minimum trap size of 3 inches, and the stack serving them cannot be smaller than the largest trap discharging into it.

QUESTION 6

SINGLE CHOICE

What is the minimum trap size required for a residential kitchen sink?

- ☐ A 1 1/4 inches
- ☒ B 1 1/2 inches
- ☐ C 2 inches
- ☐ D 3 inches

ANSWER B

WHY The minimum trap size for a residential kitchen sink is 1 1/2 inches. Lavatories typically use a 1 1/4-inch trap, but kitchen sinks with disposal units require a minimum of 1 1/2 inches to handle food waste and prevent clogging.

QUESTION 7

SINGLE CHOICE

When testing a residential gas piping system with air pressure, what is the minimum test pressure that must be held for a minimum of 10 minutes?

- ☐ A 3 psi
- ☒ B 5 psi
- ☐ C 10 psi
- ☐ D 15 psi

ANSWER B

WHY Residential gas piping systems must be tested at a minimum of 5 psi air pressure and hold that pressure for a minimum of 10 minutes without measurable loss. This verifies the integrity of joints and fittings before the system is placed in service.

QUESTION 8

MULTIPLE CHOICE

Which of the following are typical safety devices installed on a residential solar water heating system? (Choose two.)

- ☒ A Pressure relief valve on the collector loop
- ☒ B Temperature and pressure relief valve on the storage tank
- ☐ C Standard ball valve without check on the return line
- ☐ D Atmospheric vacuum breaker only on the cold water make-up

ANSWER A • B

WHY Both a pressure relief valve on the closed collector loop (to protect from thermal expansion and over-pressurization) and a temperature and pressure relief valve on the storage tank (to protect from overheating and overpressure) are required safety devices. A ball valve without a check can allow reverse flow, and an atmospheric vacuum breaker alone is insufficient protection for a pressurized solar loop.

QUESTION 9

SINGLE CHOICE

What type of backflow preventer is required on a residential lawn irrigation system that uses chemical injection?

- ☐ A Atmospheric vacuum breaker
- ☐ B Hose bibb vacuum breaker
- ☒ C Reduced pressure principle backflow preventer
- ☐ D Double check valve assembly

ANSWER C

WHY A reduced pressure principle (RP) backflow preventer is required when a residential irrigation system includes chemical injection (fertilizer, herbicide, etc.), because the health hazard posed by these chemicals requires the highest level of mechanical backflow protection. A simple vacuum breaker is insufficient when contaminants could be introduced into the potable supply.