

01	☐ A	☐ B	☐ C	☐ D	☐ E
02	☐ A	☐ B	☐ C	☐ D	☐ E
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38	☐ A	☐ B	☐ C	☐ D	☐ E
39	☐ A	☐ B	☐ C	☐ D	☐ E

PRACTICE QUESTIONS

CA CONTRACTORS STATE LICENCE BOARD

UKNE2L6Q

C-04 Boiler, Hot-Water and Steam Fitting

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for CA CONTRACTORS STATE LICENCE BOARD UKNE2L6Q , 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, UKNE2L6Q
- the question number
- the email address on your order

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

QUESTION 1

SINGLE CHOICE

A low-pressure hot-water heating boiler is being installed and requires a device that will automatically relieve excessive pressure to prevent the boiler from rupturing. Which type of valve serves this function?

- ☐ A Stop valve
- ☐ B Check valve
- ☒ C Pressure-relief valve
- ☐ D Pressure-reducing valve

ANSWER C

WHY A pressure-relief valve is the safety device required on a boiler to automatically open and discharge water or steam when the pressure exceeds a safe set point, protecting the boiler from rupture. A stop valve controls flow manually, a check valve prevents backflow, and a pressure-reducing valve lowers downstream pressure.

QUESTION 2

SINGLE CHOICE

In a low-pressure steam heating system, the piping should pitch (slope) in which direction relative to the direction of steam flow?

- ☐ A Downward, against the direction of steam flow
- ☒ B Upward, in the same direction as steam flow
- ☐ C Level, with no slope required
- ☐ D Downward, in the same direction as steam flow

ANSWER B

WHY Steam piping must pitch upward in the direction of steam flow so that condensate drains back toward the boiler and does not accumulate to cause water hammer. Wet return lines pitch downward toward the boiler. A level slope or reverse pitch would trap condensate.

QUESTION 3 SINGLE CHOICE

A feed-water line is being connected to a steam boiler to prevent the boiler water from flowing back into the supply line if boiler pressure exceeds supply pressure. Which valve should be installed?

- ☐ A Globe valve
- ☒ B Check valve
- ☐ C Gate valve
- ☐ D Angle valve

ANSWER B

WHY A check valve allows flow in only one direction and closes automatically when flow reverses, preventing boiler water from backflowing into the feed-water supply. Globe, gate, and angle valves are manual shutoff valves and do not provide automatic backflow prevention.

QUESTION 4 MULTIPLE CHOICE

Which of the following devices are required on a low-pressure hot-water heating boiler? (Choose two.)

- ☒ A Pressure-relief valve
- ☐ B Low-water fuel cutoff
- ☐ C Boiler water feeder pump
- ☒ D Thermometer on the boiler

ANSWER A - D

WHY A pressure-relief valve and a thermometer (or temperature gauge) are required so the operator can verify safe operating conditions and the boiler is protected from overpressure. A low-water fuel cutoff is required for steam boilers, not hot-water boilers. A boiler water feeder pump is not required by code on every hot-water boiler.

QUESTION 5

SINGLE CHOICE

When sizing a chimney for a gas-fired boiler, which factor has the greatest effect on proper draft?

- ☐ A Color of the boiler jacket
- ☒ B Flue gas temperature and chimney height
- ☐ C Type of pipe insulation on the supply
- ☐ D Size of the boiler room door

ANSWER B

WHY Draft in a chimney is produced primarily by the temperature difference between the hot flue gases and the outside air, combined with the height of the chimney (stack effect). Proper flue gas temperature and sufficient chimney height create the negative pressure needed to vent combustion products safely. The other items listed do not influence chimney draft.

QUESTION 6

SINGLE CHOICE

A low-water fuel cutoff (LWCO) is being installed on a steam boiler. Its purpose is to:

- ☐ A Prevent the boiler water from leaving through the overflow pipe
- ☒ B Shut off the burner if the water level falls below a safe minimum
- ☐ C Reduce the steam pressure before it enters the distribution piping
- ☐ D Regulate the temperature of the feed water entering the boiler

ANSWER B

WHY A low-water fuel cutoff is a safety device that automatically stops the burner when the boiler water level drops below a preset safe minimum, preventing the heating surfaces from being exposed and burning out. It does not control overflow, regulate downstream steam pressure, or control feed-water temperature.

QUESTION 7

MULTIPLE CHOICE

Which of the following are sources of combustion air that may be used to supply a gas-fired boiler installed in a small mechanical room? (Choose two.)

- ☒ **A** Permanent openings from inside the building to the boiler room
- ☐ **B** A sealed, unvented attic space with no openings
- ☒ **C** Permanent openings directly from outdoors
- ☐ **D** The boiler flue vent

ANSWER A • C

WHY Combustion air for a boiler can be supplied either by permanent openings from an adjacent indoor space (when that space itself has adequate openings to outdoors) or by permanent openings directly from outdoors. A sealed attic provides no combustion air, and the flue vent is the exhaust path, not a combustion air supply.

QUESTION 8

SINGLE CHOICE

When installing a long run of hot-water heating piping, provisions must be made for thermal expansion. Which fitting is installed to absorb the movement caused by the pipe heating and expanding?

- ☐ **A** Dielectric union
- ☒ **B** Expansion loop or expansion joint
- ☐ **C** Swing check valve
- ☐ **D** Reducing tee

ANSWER B

WHY Expansion loops, swing bends, or manufactured expansion joints are installed to absorb linear thermal movement in long piping runs, preventing excessive stress on pipe, fittings, and equipment. A dielectric union prevents galvanic corrosion between dissimilar metals; a swing check valve prevents backflow; and a reducing tee changes pipe size — none of these accommodate thermal growth.

QUESTION 9

SINGLE CHOICE

A new boiler is being set on a combustible floor. What must be installed between the boiler and the floor per code?

- ☐ A A layer of standard fiberglass insulation
- ☒ B A noncombustible floor pad or fireproof base
- ☐ C A sheet of gypsum wallboard
- ☐ D No special provision is required

ANSWER B

WHY When a boiler is installed on a combustible floor, code requires a noncombustible base (such as a concrete pad, firebrick, or listed floor plate) of sufficient thickness and extending the required distance beyond the boiler to protect the wood floor from heat and fire. Standard fiberglass, gypsum wallboard, and no protection are not acceptable.