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| 09 | A | B | C | D | E |
| 10 | A | B | C | D | E |
| 11 | A | B | C | D | E |
| 12 | A | B | C | D | E |
| 13 | A | B | C | D | E |

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| 14 | A | B | C | D | E |
| 15 | A | B | C | D | E |
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| 25 | A | B | C | D | E |
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| 34 | A | B | C | D | E |
| 35 | A | B | C | D | E |
| 36 | A | B | C | D | E |
| 37 | A | B | C | D | E |
| 38 | A | B | C | D | E |
| 39 | A | B | C | D | E |

#### PRACTICE QUESTIONS

National Inspection Testing and Certification Corporation

# SFTM

STAR Steamfitting-Pipefitting Mastery

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

# Before you begin

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## What this is

9 practice questions for National Inspection Testing and Certification Corporation **SFTM**, 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, **SFTM**
- 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 steamfitter-pipefitter is reviewing a piping drawing and needs to identify the fitting that allows a pipe to change direction by 90 degrees while maintaining a smooth flow path with minimal pressure drop. Which fitting should be selected?

- ☐ A A standard 90-degree elbow
- ☒ B A long-radius (long-sweep) 90-degree elbow
- ☐ C A standard 45-degree elbow
- ☐ D A tee fitting installed at a corner

**ANSWER B**

**WHY** A long-radius (long-sweep) 90-degree elbow has a centerline radius of 1.5 times the nominal pipe size, which provides a smoother flow path than a standard elbow (radius of 1.0 times the nominal pipe size). This reduces turbulence and pressure drop, making it the preferred choice for many steam and process piping applications where flow efficiency matters.

**QUESTION 2**

SINGLE CHOICE

When cutting threads on a steel pipe using a pipe threading machine, which cutting fluid is most appropriate to use during the threading operation?

- ☐ A Water-soluble cutting fluid
- ☒ B Thread cutting oil specifically formulated for pipe threading
- ☐ C Light machine oil only
- ☐ D No cutting fluid is required if the machine is sharp

**ANSWER B**

**WHY** Thread cutting oil specifically formulated for pipe threading is the correct choice. It provides the necessary lubrication and cooling to produce clean, sharp threads, extends die life, and prevents galling. Light machine oil or water-soluble fluids do not provide adequate lubrication for steel pipe threading, and threading without any cutting fluid produces poor-quality threads and rapidly damages the dies.

**QUESTION 3** SINGLE CHOICE

On a piping isometric drawing, what does a solid triangular arrowhead symbol placed on a pipe line typically indicate?

- ☐ A The location of a pipe support
- ☒ B The direction of process flow
- ☐ C A welded joint
- ☐ D A change in pipe elevation

**ANSWER B**

**WHY** On a piping isometric drawing, a solid triangular arrowhead symbol placed on a pipe line indicates the direction of process flow. This is a standard symbology convention used to help fitters and operators understand the flow path through the piping system without having to trace the entire line manually.

**QUESTION 4** MULTIPLE CHOICE

When working on or near live steam piping systems, which of the following hazards must a pipefitter be aware of? (Choose two.)

- ☒ A Burns from contact with hot surfaces or escaping steam
- ☐ B Hearing damage from high-pressure steam leaks
- ☐ C Electrical shock from static buildup in non-conductive plastic piping
- ☐ D Asphyxiation in oxygen-enriched environments caused by leaking steam
- ☒ E Exposure to asbestos insulation on older systems

**ANSWER A - E**

**WHY** The two correct hazards are burns from hot surfaces/escaping steam and exposure to asbestos insulation on older systems. Steam leaks can also produce extremely loud noise causing hearing damage, but steam does not create an oxygen-enriched atmosphere (it displaces oxygen) and standard metallic piping is conductive, so static shock is not a typical concern. Asbestos insulation is a documented hazard on older steam systems and requires special handling.

**QUESTION 5**

SINGLE CHOICE

When assembling a threaded pipe joint, what is the correct procedure for applying joint sealant (pipe dope) or Teflon tape?

- ☐ A Apply sealant only to the female threads
- ☐ B Apply sealant only to the male threads
- ☐ C Apply sealant to both male and female threads for double protection
- ☒ D Apply sealant to the male threads and skip one or two threads at the end to prevent sealant from entering the pipe

**ANSWER D**

**WHY** Sealant should be applied to the male threads only, with the first one or two threads at the tip left clean. This prevents excess sealant or tape from being pushed into the pipe interior where it could foul valves, meters, or sensitive equipment downstream. Applying sealant to both male and female threads is excessive and unnecessary.

**QUESTION 6**

SINGLE CHOICE

A pipefitter needs to make a 45-degree rolling offset around an obstruction. Using the constants method, if the offset (set) distance is 16 inches, what is the travel length required?

- ☐ A 11.31 inches
- ☐ B 16.00 inches
- ☒ C 22.63 inches
- ☐ D 32.00 inches

**ANSWER C**

**WHY** For a 45-degree offset, the travel equals the offset multiplied by the 45-degree constant of 1.4142. So  $16 \text{ inches} \times 1.4142 = 22.63 \text{ inches}$ . The 45-degree constant is derived from  $1/\tan(22.5^\circ)$ , which is the half-angle used in offset calculations.

**QUESTION 7**

MULTIPLE CHOICE

Which of the following factors must be considered when selecting piping material for an industrial application? (Choose two.)

- ☒ **A** Operating temperature and pressure of the system
- ☒ **B** Corrosiveness of the fluid being transported
- ☐ **C** The color of paint to be applied to the finished pipe
- ☐ **D** Compatibility with existing piping system materials

**ANSWER A • B**

**WHY** Operating temperature/pressure and fluid corrosiveness are two of the primary engineering considerations for pipe material selection. Paint color is an aesthetic or safety-marking concern, not a material selection criterion, and compatibility with existing materials is important for preventing galvanic corrosion but is a secondary consideration compared to the primary service conditions.

**QUESTION 8**

SINGLE CHOICE

What is the maximum recommended spacing between supports for horizontal runs of 1-inch nominal steel pipe carrying water at ambient temperature?

- ☐ **A** Approximately 4 feet
- ☒ **B** Approximately 7 feet
- ☐ **C** Approximately 10 feet
- ☐ **D** Approximately 14 feet

**ANSWER B**

**WHY** For 1-inch horizontal steel pipe carrying water at ambient temperature, the typical maximum support spacing per industry standards (such as MSS SP-58 and similar references) is approximately 7 feet. Support spacing depends on pipe size, material, service, and contents; larger pipes require greater spacing in some cases, but 1-inch pipe is generally supported at roughly 7-foot intervals.

**QUESTION 9**

SINGLE CHOICE

Before performing maintenance on a piping system that contains a hazardous fluid under pressure, what is the first action a qualified pipefitter must take?

- ☐ A Don the appropriate personal protective equipment
- ☒ B Isolate the energy source and apply lockout/tagout devices
- ☐ C Notify the supervisor of the maintenance activity
- ☐ D Drain the piping system of all contents

**ANSWER B**

**WHY** The first critical action is to isolate the energy source and apply lockout/tagout (LOTO) devices to prevent unexpected release of stored energy or pressurized contents. This must be done before draining, PPE is secondary protection after energy isolation is established, and supervisor notification, while important, is a procedural rather than safety-critical first step.