



# **Marathon TT&R LLC Job Skills Testing Preparation Study Guide**

## CONTENTS

The Job Skills Testing Preparation Workshop is designed to assist candidates in preparing for the TT&R Job Skills Tests (JSTs). This workbook is divided into two main parts:

- The first part of the workbook will review general test-taking practices and skills as well as review some of the different question types on tests.
- The second part of the workbook will provide an overview of the specific tests given in the TT&R Job Skills Testing. Sample questions will be provided for each test for practice purposes so the candidates can familiarize themselves with the types of questions given on each of the tests.

## Part I: General Test-Taking Tips and Knowledge

### Before the Test

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- Get a good night's rest (eight hours, if possible).
- Make sure to set an alarm and allow plenty of time to get ready so you won't need to rush.
- Dress comfortably (dress in layers).
- Make sure you bring your glasses if you need them.
- Eat a healthy meal before the testing session so you will have energy and be able to focus. Bring a small snack if you feel you may need it.
- Arrive early. Make sure you know where the testing session will be held in advance and try to be there at least 15 minutes early.
- Go to the bathroom prior to walking into the testing room. Be mindful of your caffeine intake and how it may affect you. You will be given one break halfway through the testing.
- Test anxiety is normal. Try to relax if you're feeling nervous. Take a few deep breaths.
- View the test as a challenge that you can and will overcome.
- Please leave your cell phone in the car. You will not be allowed to bring it into the testing center.
- Bring your ID.

### During Each Test

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- Listen to and read all instructions carefully.
- Concentrate and focus on the test.
- Budget your time so you will be able to complete the entire test.
- Read each question carefully.
- First, eliminate answer options you know are incorrect before choosing the correct answer.
- Answer the questions that you know the answers to first, and then come back to more difficult questions later.
- Do not "over think" a question. The questions in the JSTs are not designed to be tricky so choose the best answer without too much speculation.
- Make sure you answer every question on the test. Guessing at the correct answer is better than leaving it blank. There is no penalty for guessing.
- If you finish early, use this time to review your test by looking for any careless mistakes, but avoid changing your answers at the last minute, unless it is clear you made a mistake. Do not disturb others if you finish early.

## Types of Questions

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There are several different question formats: multiple choice; true/false; etc. For our purposes, we will review only the types of questions that you'll be exposed to in the MARATHON TT&R Job Skills Testing. Question formats in the JSTs are variations of these basic question formats.

### Multiple Choice Questions

In a multiple choice question, the question is followed by two or more answer options from which you choose the best answer.

Example:

1. To be an outstanding operations technician, you must be:
  - A. an effective problem solver.
  - B. tall.
  - C. good looking.
  - D. funny.

### Tips for Multiple Choice Questions:

- First, eliminate all the answers you know to be incorrect.
- Read all of the answer options before selecting the best answer.
- If you don't know the answer, make an educated guess.

### True or False or other two-option Questions (e.g. yes/no; in/out; etc.)

In a true or false question, a statement is given and you must decide whether the statement is absolutely true or absolutely false.

Example:

2. All technicians are short.
  - A. True
  - B. False

### Tips for True/False questions:

- Read the question carefully, paying attention to qualifiers like "always," "never," or "sometimes."
- If you do not know the answer, take a guess – you have a 50% chance of being right.

## Test Materials

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During the MARATHON TT&R Job Skills Testing, you will be provided with all the materials necessary to complete the tests. This includes the computerized test, pencils, calculator, and scratch paper.

## Part II: MARATHON TT&R Job Skills Tests

### Overview of Tests

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The main purpose of the Job Skills Testing is to ensure that each candidate possesses the necessary job skills to be an effective MARATHON TT&R employee. During the actual test you will be given a number of timed tests that will take approximately three and a half hours to complete. Some (but not all) of these tests include:

#### **Sample Operator Job Skills Tests:**

- Reading Gauges
- Solving Problems Using Math
- Physical & Mechanical Principles
- Logical Reasoning
- Reading & Comprehending

A description of these tests and practice questions (when possible) are provided on the following pages for some of the Job Skills Tests. Make sure to time yourself so you can get a feel for the pace you will need for the actual testing.

## MARATHON

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### Reading Gauges, Thermometers, Screens, Diagrams, & Graphs

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#### Directions

Being able to read gauges, thermometers, computer screens, charts, and graphs is important for being an effective TT&R employee. Your task in the Gauges test will be to look over the gauges, thermometers, and graphs and answer one or more questions about them.

#### Tips for the Gauges Test

- Work as rapidly and as carefully as you can.
- When looking at a gauge or thermometer, ask yourself, “Is the scale increasing or decreasing?”
- Make sure you determine what increments the tick marks on the scale are indicating (e.g. does each tick mark represent a 2° change, a 5° change or a 10° change on a thermometer?)
- Pay attention to whether the gauge or thermometer has multiple scales.
- Answer every question even if you are unsure of the answer.

Now try answering the gauge questions found on the following pages. Give yourself five minutes to answer the questions.

1. How many degrees Fahrenheit does the thermometer below indicate?

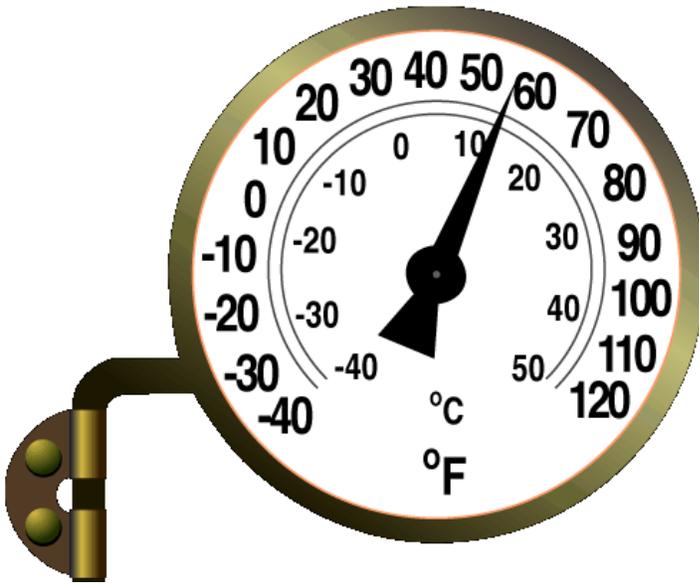


- A. 73
  - B. 57
  - C. 47
  - D. 23
2. How many PSI does the gauge below indicate?



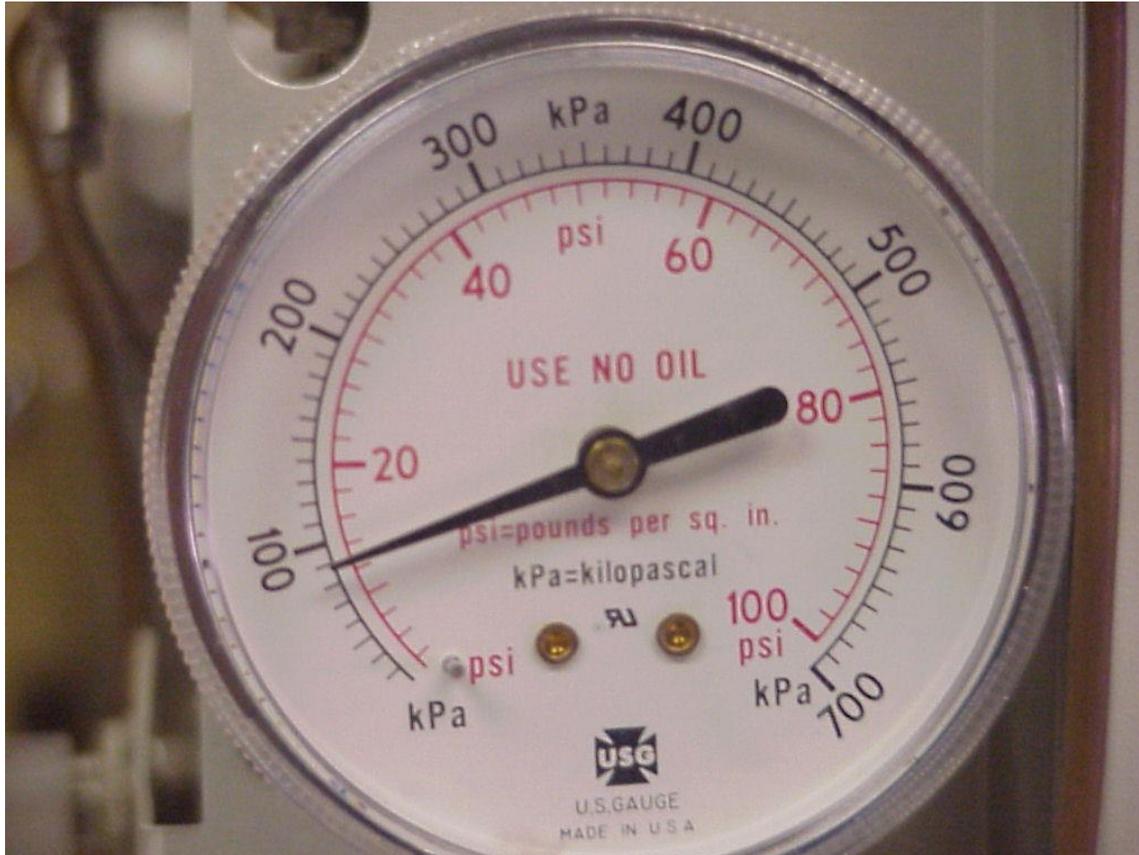
- A. 1500
- B. 14.75
- C. 1460
- D. 12

3. How many degrees Celsius does this gauge indicate?



- A. 58
- B. 59.3
- C. 12
- D. 15

4. Look at the gauge shown below.



Approximately how many psi does it indicate?

- A. 89
- B. 12.5
- C. 27.5
- D. 10.5

Look at the information shown below when answering questions 5, 6, and 7.

**Daily High Temperature Table**

City	Day #1		Day #2		Day #3		Day #4	
	<i>Pred.</i>	<i>Act.</i>	<i>Pred.</i>	<i>Act.</i>	<i>Pred.</i>	<i>Act.</i>	<i>Pred.</i>	<i>Act.</i>
Houston, TX	92°	87°	95°	95°	82°	83°	96°	92°
Chicago, IL	75°	72°	82°	85°	87°	83°	96°	88°
Los Angeles, CA	90°	90°	82°	91°	81°	85°	79°	75°

5. The actual high temperature reading in Los Angeles, CA was the same as the predicted high on which day?
- A. #1  
 B. #2  
 C. #3  
 D. #4
6. The predicted high temperature in Chicago, IL on Day #2 was:
- A. higher than the actual high.  
 B. lower than the actual high.  
 C. the same as the actual high.
7. On what day did Houston, TX and Chicago, IL have the same actual high temperature?
- A. #1  
 B. #2  
 C. #3  
 D. #4

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**Reading Gauges, Thermometers, Screens, Diagrams, & Graphs**

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**Answer Key**

1. A
2. C
3. C
4. B
5. A
6. B
7. C

How did you do? For any questions you answered incorrectly, please take a minute to determine what you did wrong.

## MARATHON

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### Solving Problems Using Math

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#### Directions

Your ability to solve problems using math is important for being an effective TT&R employee. Use a calculator when solving the problems.

#### Tips for the Math Test

- Determine what type of math problem it is. For example, is it a multiplication, division, ratio, or fraction problem?
- Remember that all of the information you need to solve the problem is given.
- Use a calculator.
- Work the problem and figure out the answer before looking at the answer options. If you do not find your answer in the options, review the question and your work and try again.
- Work as quickly and as accurately as you can.
- Come back to any problems that you are having difficulty solving.
- If do not you know the correct answer, guess at it anyway. Do not leave any question blank.
- If you finish early, check your work.

Now complete the math questions on the following pages. Give yourself 15 minutes to answer these questions.

1. Multiply ( $\times$ ) 7 by 12.
  - A. 68
  - B. 70
  - C. 76
  - D. 84
  
2. Divide ( $\div$ ) 399 by 6.
  - A. 50
  - B. 57.75
  - C. 66.5
  - D. 70
  
3. If you have 729 pieces weighing 2.81 lbs each, how much does your entire supply weigh?
  - A. 2048.49
  - B. 2273.57
  - C. 1932.60
  - D. 2689.11
  
4. If one pipe is 438 inches long, and another is 829 inches long, what is the difference in their lengths?
  - A. 424 inches
  - B. 391 inches
  - C. 451 inches
  - D. 452 inches
  
5. Suppose you are filling an Olympic-size swimming pool at a rate of 16,000 gallons per hour. The pool will hold a total of 648,000 gallons of water. You've been filling the pool for 12 hours. How many more hours until the pool is full?
  - A. 52.5 hours
  - B. 28.5 hours
  - C. 12 hours
  - D. 40.5 hours

6. Suppose you are mixing a cleaning solution that consists of 1 part bleach to 4 parts water. You have 32 oz. of bleach. How much water do you need to add?
- A. 36 oz.
  - B. 8 oz.
  - C. 28 oz.
  - D. 128 oz.
7. Suppose your gasoline tank holds 18 gallons of fuel. Your tank is currently 20% full. How many gallons of fuel do you need to add to fill the tank?
- A. 14.4
  - B. 17.64
  - C. 3.6
  - D. 4.4
8. Suppose you have a piece of material that is 17 feet long. You only need  $\frac{5}{8}$  of the total length. How many feet do you need?
- A. 6.375 feet
  - B. 16.375 feet
  - C. 10.625 feet
  - D. 27.2 feet

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**Solving Problems Using Math**

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**Answer Key**

1. D
2. C
3. A
4. B
5. B
6. D
7. A
8. C

How did you do? Please take a minute to double check any answers that you didn't get correct.

If you are looking for additional help at solving problems using math, there are some excellent tutorials at [www.khanacademy.org](http://www.khanacademy.org).

## MARATHON

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### Physical & Mechanical Principles

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#### Directions

Your ability to understand basic Physical and Mechanical Principles is important for being an effective TT&R employee. On the following pages you will see a variety of questions, some with pictures and diagrams. Examine each question and answer to the best of your ability.

#### Tips for the Physical & Mechanical Principles Test

- First, eliminate the answers you know are false.
- Read all of the answer options before choosing the best answer.
- Answer every question even if you are not completely sure of the correct answer.

Now answer the mechanical questions on the following pages. Give yourself two minutes to answer these questions.

1. Which is the correct method for lifting a heavy box?



- C. Both are equally effective.

2. Review the picture. Turning the valve in the direction indicated is called    *clockwise/counterclockwise*    and will    *open/close*    the valve?



- A. Counterclockwise, open  
 B. Counterclockwise, close  
 C. Clockwise, open  
 D. Clockwise, close
3. Which liquid has the higher density?
- A. Water  
 B. Oil

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### Physical & Mechanical Principles

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#### Answer Key

1. B – When lifting heavy objects bend at the knees and keep your back straight.
2. D – The indicated direction is clockwise and most valves (including the one shown) close when turned clockwise and open when turned counterclockwise. This is similar to opening the valve on a garden hose to allow the water to flow.
3. A – Oil is less dense than water which is why it floats on top of water.

How did you do? Refer to the answer key above for descriptions of the correct answers.

## MARATHON

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### Logical Reasoning

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#### Directions

For the logical reasoning test, you'll first read a set of facts. After you have read all of the facts, look at each of the conclusions. From the facts you can tell that some of the conclusions are **definitely true** and some are **definitely false**, but in some cases you cannot tell from the facts whether the conclusion is true or false. In this last case, you'd answer **not enough information**.

#### Tips for the Logic Test

- First, read the entire set of facts.
- Reread the set of facts and integrate and/or visualize them into a situation that makes sense to you.
- DO NOT make assumptions. Use only the facts given even if you don't agree with them.
- For more complicated logic problems, you may need to make a list or a chart to help you organize the different components of the information provided in the facts.
- Once you decide on your answer, reread the facts and make sure your answer makes sense.

Please turn the page and complete the problems on the following pages. Give yourself five minutes to answer these questions.

**PROBLEM ONE**

A = Definitely True      B = Definitely False      C = Not Enough Information

**FACTS**

- John never works on Fridays.
- Quality Control Managers always work on Fridays.
- Sally is John's supervisor.
- Sally is a Quality Control Manager.

**CONCLUSIONS**

1. John is a Quality Control Manager.
2. John is part of the quality assurance team.
3. Sally always works on Fridays.
4. Sally sometimes works on Saturdays.

**PROBLEM TWO**

A = Definitely True      B = Definitely False      C = Not Enough Information

**FACTS**

- A company has a production line with five employees and four workspaces. All employees are working in a workspace.
- One of the workspaces is out of service, and is empty.
- Laurie is not sharing a workspace with Paul.
- Mark is not sharing a workspace.
- Tom is not sharing a workspace with either Gwen or Paul.

**CONCLUSIONS**

5. Laurie and Mark are sharing a workspace.
6. Tom and Laurie are sharing a workspace.
7. Mark is in work station #1.
8. Gwen and Paul are sharing a workspace.

## MARATHON

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### Logical Reasoning

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#### Answer Key

1. B (Definitely False – John can't be a QC Manager because he never works on Fridays and QC Managers ALWAYS work on Fridays.)
2. C (Not Enough Information – No facts specify or lead to the definite conclusion that John is on the QC team. You might have assumed that he is on the QC team because his manager is a QC manager but you can't say that it is DEFINITELY true.)
3. A (Definitely True – Sally is a QC Manager and QC Managers ALWAYS work on Fridays.)
4. C (Not Enough Information – No facts specify or lead to the definite conclusion that Sally works on Saturdays.)
5. B (Definitely False – Mark isn't sharing a workspace with anybody.)
6. A (Definitely True – After everybody is slotted, the only place left for Laurie is Tom's workspace so Tom & Laurie are DEFINITELY working in the same workspace.)
7. C (Not Enough Information – No facts specify or lead to the definite conclusion Mark is in workstation #1.)
8. A (Definitely True – After everybody is slotted, the only workspace available for Gwen and Paul is the same workspace.)

How did you do? For any questions that you missed go back and review why you might have answered the question incorrectly. Below is an outline of how you might have "integrated" or "visualized" each of the problems.

#### Overview of Problem 1

Sally is a Quality Control Manager and John works for her. Sally and other Quality Control Manager ALWAYS work on Fridays, but John NEVER works on Fridays.

#### Overview of Problem 2

In Problem 2, it is first important to note that there are five people working in three workspaces (remember that one is out of service). Since we know that Mark is in one of the three workspaces, we now know that four people are working in the remaining two workspaces. Since Gwen and Paul are together in a workspace without Tom AND Laurie is not with Paul (or Gwen), we now know that Gwen and Paul are in a workspace and Tom and Laurie are in the final workspace.

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### Reading & Comprehending

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#### Directions

Being able to read such things as policies, procedures, and regulations is important for being an effective TT&R. For the Reading & Comprehending test, you'll read documents that you would be expected to read on the job. You'll be given a series of multiple choice questions to answer about these documents. Your task is to choose the best of the four answer options provided.

#### Tips for the Reading & Comprehending Test

- Review the questions first before reading all of the information in that section so you know what you are looking for in the information.
- First, eliminate all the answers you know to be incorrect.
- Read all of the answer options before selecting the best answer.
- Once again – if you don't know the answer, guess at it anyway.

Please turn the page and complete the problems on the following pages. Give yourself five minutes to complete these questions.

**Read the excerpt from the OSHA's Requirements for Fire-Prevention Plans on the next page to answer the following three questions.**

1. According to the reading, which of the following statements is true?
  - A. An employer with 10 or fewer employees may *not* communicate their fire-prevention plan orally to their employees.
  - B. An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed.
  - C. An employer must provide each employee with a fire extinguisher.
  - D. Minimum standards for a fire-prevention plan include FRCs in all work settings.
  
2. Which of the following is *not* one of the minimum elements of a fire-prevention plan?
  - A. Proper handling and storage procedures for hazardous materials
  - B. The name or job title of employees responsible for the control of fuel source hazards
  - C. Procedures to control accumulations of flammable and combustible waste materials
  - D. Floor plans or workplace maps which clearly show the emergency escape routes
  
3. A fire-prevention plan must:
  - A. be in writing.
  - B. be kept in the workplace.
  - C. be made available to employees for review.
  - D. All of the above are correct.

## Fire-Prevention Plans

**Application.** An employer must have a fire-prevention plan when an OSHA standard in this part requires one. The requirements in this section apply to each such fire-prevention plan.

### **1910.39(b)**

**Written and oral fire-prevention plans.** A fire-prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.

### **1910.39(c)**

**Minimum elements of a fire-prevention plan.** A fire-prevention plan must include:

#### **1910.39(c)(1)**

A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire-protection equipment necessary to control each major hazard;

#### **1910.39(c)(2)**

Procedures to control accumulations of flammable and combustible waste materials;

#### **1910.39(c)(3)**

Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials;

#### **1910.39(c)(4)**

The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and

#### **1910.39(c)(5)**

The name or job title of employees responsible for the control of fuel source hazards.

### **1910.39(d)**

**Employee information.** An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also review with each employee those parts of the fire-prevention plan necessary for self-protection.

[FR 67 67963, Nov. 7, 2002]

## MARATHON

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### Reading & Comprehending

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#### Answer Key

1. B
2. D
3. D

How did you do? Did you find all of the answers? If not, take the time to identify the best answers in the reading.

#### FINALLY, REMEMBER...

- Your Test Location
- Be on Time. Time is kept by the Facilitator's watch