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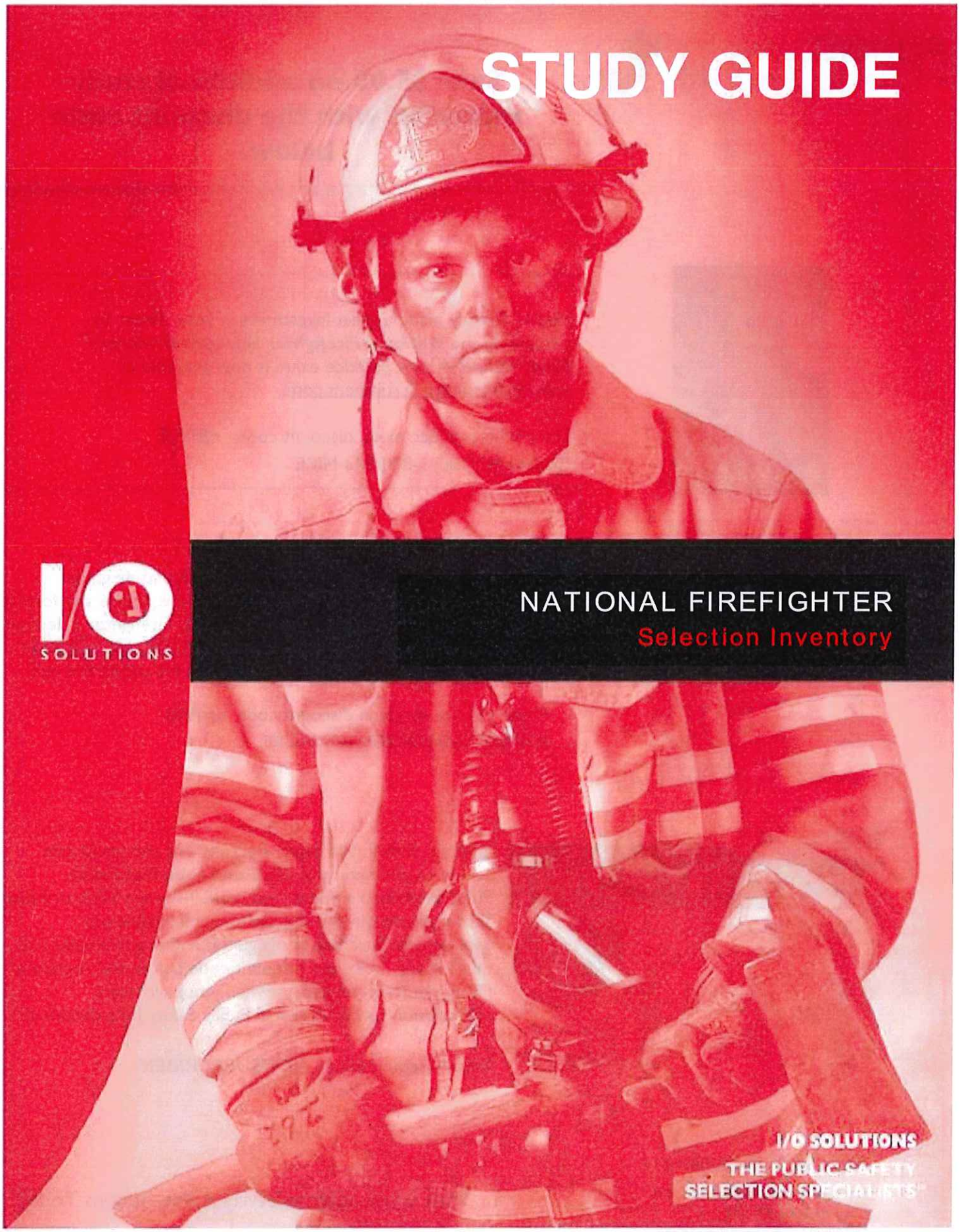

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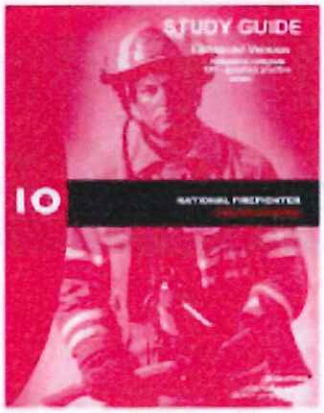

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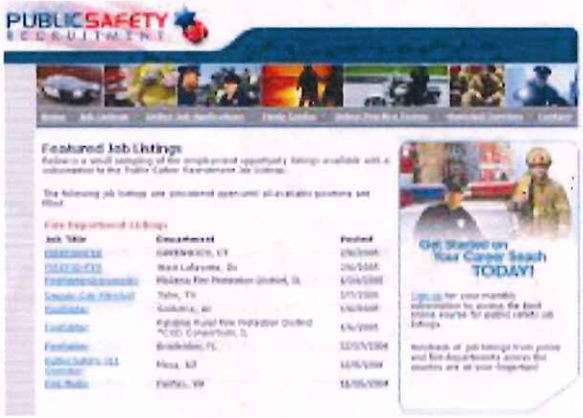

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Introduction

This *NFSI Study Guide* has been developed to introduce you to the *National Firefighter Selection Inventory (NFSI)*. The examination consists of a series of multiple-choice questions and rating scales designed to test important cognitive abilities and personality attributes that are necessary for effective job performance as a firefighter.

In developing the NFSI, a group of fire service experts identified many of the tasks essential to the performance of the job of a firefighter. From these tasks, 11 essential areas for entry-level testing were determined. These 11 areas are as follows:

- Verbal comprehension
- Verbal expression
- Problem sensitivity
- Deductive reasoning
- Inductive reasoning
- Information ordering
- Mathematical reasoning
- Number facility
- Stress tolerance
- Team orientation
- Motivation/attitude

These 11 test areas have been clustered or grouped into two sections on the examination. The cognitive section, which includes 105 items, consists of verbal comprehension, verbal expression, problem sensitivity, deductive reasoning, inductive reasoning, information ordering, mathematical reasoning and number facility items. The personality section, which includes 50 items, consists of stress tolerance, team orientation and motivation/attitude.

The selection process for firefighters is very competitive, and higher scores on the entrance examination will increase your chances of being hired. Although you are not required to read or use this *NFSI Study Guide*, we encourage you to do so. The more you prepare for the test, the more likely you are to improve your score.

General Examination Information

Objectives of the NFSI Study Guide:

1) To help you become acquainted with the types of questions included in the examination.

This *NFSI Study Guide* will provide you with a better understanding of the nature and format of questions that will appear on the NFSI. The examination is designed to measure your job-relevant cognitive abilities and personality attributes. You will be tested on eight separate cognitive abilities and three personality attributes. A definition of each of these areas and an explanation of how they apply to the job of an entry-level firefighter will be given in this guide. In addition, sample test questions are also provided in each measurement area to give you a good idea of the types of questions to expect. We encourage you to become acquainted with the different measurement areas and question formats that will appear on the examination.

2) To inform you of the rules governing the testing process.

This guide will provide you with information about what you will be allowed to bring with you when you take the examination. Also included in this section is information about what is expected of you and what you can expect from the test proctors. It is a good idea to be aware of the testing

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rules before the day of the test so that you will not be distracted during the actual administration and can focus all of your efforts on doing well on the examination.

3) **To provide you with some general test-taking strategies.**

It is very important to pay close attention to this section of the *NFSI Study Guide*. The general test-taking strategies presented can help to ensure that you work as efficiently and effectively as possible on the examination. Following these general test-taking strategies may help to improve your overall score on the examination.

4) **To provide specific instructions for completing the examination answer sheet.**

Because the examination is computer-scored, you will mark your answers on a computer scan sheet. If your answers are not marked correctly on this answer sheet, you will not receive credit for them.

5) **To provide you with information about common test-taking errors and strategies for avoiding them.**

This *NFSI Study Guide* explains errors typically made by test-takers in multiple-choice exams and includes an error-analysis procedure to help you determine weaknesses in your test-taking behavior. Suggestions for avoiding the same errors are provided.

Examination Specifications

The NFSI is divided into the following two sections:

Section I: The following eight job-related cognitive abilities are tested in this section:

1. Verbal comprehension
2. Verbal expression
3. Problem sensitivity
4. Deductive reasoning
5. Inductive reasoning
6. Information ordering
7. Mathematical reasoning
8. Number facility

Section II: The following three job-related personality attributes are tested in this section:

1. Stress tolerance
2. Team orientation
3. Motivation/attitude

Number of Examination Questions

As indicated previously, the 11 test areas have been clustered or grouped into two sections on the examination. The cognitive section includes 105 questions that will contribute to your total score. Your score on the personality component will be computed from your responses to an additional 50 items.

Time Limit

The time allowed for you to work on the NFSI is two and a half (2.5) hours.

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Tips for the Day of the Exam

✓ **Preparing for the examination.** You will increase your chances of obtaining your best score if you spend some time preparing for the examination. This includes reading this *NFSI Study Guide*, finding out as much as possible about the examination ahead of time, trying to avoid anxiety about the examination and using good test-taking strategies.

✓ **Your physical well-being**. Get a good night's sleep before the examination. Try to ensure that you are in the best possible physical and mental condition on the day of the examination.

✓ **Confidence.** The more confident you are in your abilities, the more likely you are to do well on the examination. Try to stay focused on the examination so that you don't lose your place or read sentences multiple times. You want to take control of the examination by feeling confident in your skills. Focus on becoming relaxed but concentrate on the examination you are about to take.

✓ **Positive attitude.** This examination is an opportunity for you to show your skills and abilities, and a positive attitude can impact your test score. The following suggestions may help you to see this examination in a positive light:

- Look at this examination as a challenge but try not to get "stressed out" by thinking about it too much.
- Remember that passing this examination is the first step in the selection process for entrance to the fire department, but it is not the only piece of information used to make that decision.
- By using this *NFSI Study Guide* and practicing your strategies, you can be more prepared for the examination.

✓ **Arrive early**. Make all necessary arrangements to ensure that you arrive early at the test site. You may need to make advance arrangements for such things as a ride to the test site or childcare. It would also be wise to allow for more time due to potential poor weather or traffic delays. Give yourself ample time to settle in at the test site.

Ten Basic Test Rules

1. Promptness is mandatory for admittance to the test on the date and time scheduled.

2. Photo identification is mandatory for admittance to the test.

3. You must bring the following supplies to the test:

   - Two sharpened #2 pencils
   - An eraser
   - A watch

   No other supplies will be permitted at the test site. Calculators and electronic spelling devices will **NOT** be allowed at the test site.

4. Beepers/portable phones and other communication devices will not be permitted during testing. If you choose to use an unauthorized communication

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device, in violation of testing guidelines, your test will be collected and considered invalid.

5. Handbags, backpacks or other personal items will be placed on the floor under your work area (table/desk). You may not open your handbag, backpack or any other personal belongings during the testing process. Food and beverages will **NOT** be allowed at the test site.

6. Once you are seated for the test, you will have access to restroom facilities only if escorted by a proctor. Once testing begins, any time taken for this purpose will be counted as test time and will not be made up.

7. You will undergo the same standardized procedure as all other candidates with respect to the testing process (e.g., notification, instructions, etc.).

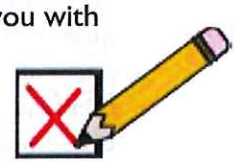
8. Due to the security measures that will be in place, only authorized candidates will be admitted to the test site.

9. All questions or concerns that arise during the testing process should be directed to the appropriate designated test administration staff person(s).

10. It is strictly prohibited for you to leave the test site with any test materials. All test materials supplied must be returned before you exit the test site.

General Strategies for Taking the *National Firefighter Selection Inventory*

✓ **Listen carefully.** The test administrator will provide you with complete instructions for taking the examination. Be sure that you pay close attention to all test instructions. It is extremely important that you completely understand the directions before the examination begins.



✓ **Ask questions.** If there are instructions that you do not understand or if something is not clear, please feel free to ask the test administrator any questions that you may have before the examination begins.

✓ **Note start and end times.** Just before the test administrator begins the examination, make a note of the start and end times for the examination.

✓ **Read each question carefully.** Be sure that you understand what the question requires of you.

✓ **Read for meaning.** Don't get stuck on words or sentences you do not understand. You may be able to get the main idea from a sentence or paragraph without understanding the individual words or the individual sentences.

✓ **Try to answer the question correctly before you look at the answers given.** If you know the answer, compare it to the available choices and pick the choice closest in meaning to the answer you have in mind.

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- ✓ **Answer easy questions first.** It is important that you answer the easy questions first on this examination. By doing so, you will afford yourself more time to spend on the difficult questions if necessary. Seek out questions you can answer. If there are particular kinds of questions that you feel most comfortable with, answer those questions first. For example, if you are particularly good at verbal comprehension, then find those items first and complete them.

- ✓ **Don't waste time on questions you can't do.** If you are not able to answer a question, then skip it. It is better to skip a difficult question than to spend a lot of time on it and not be able to complete other examination questions. If time permits, you may be able to return to these items and evaluate them more thoroughly.

- ✓ **Mark your examination booklet.** Mark in your examination booklet those questions that you have skipped so that you are able to come back to them later in the examination. Marking questions that you have skipped in your test booklet will help to ensure that you have answered all of the questions by the time the examination period has ended.

- ✓ **Use a process of elimination.** If a situation presents itself where you are unable to answer a question, use a process of elimination to narrow your options. First, eliminate any answers that are clearly wrong. Then determine how you feel about the remaining choices. If you believe that some answers are more correct than others, indicate that on your examination booklet. Later in the examination, you may have an opportunity to come back to these questions and answer them without having to read the entire passage again.

- ✓ **Keep track of time.** It is important that you keep track of time so that you are able to pace yourself throughout the examination. You do not want to run out of time and have unanswered questions. Since the score on the cognitive portion of your examination will be based on the total number of correct answers, you want to work both quickly and efficiently. It is also important that you allow yourself a few minutes of time to review your answers and also to provide your "best guess" on unanswered questions at the end of the examination.

- ✓ **Remain calm.** It is important that you remain calm throughout this examination so that you are able to work most effectively. Don't allow yourself to become nervous or confused by a few difficult or challenging questions. There may be times when you are not going to know the answer, and neither will other individuals taking the examination. If you believe that you have not done well on any particular type of question, try to remain calm and focus on doing your best for the rest of the examination.

- ✓ **Extra time.** If you finish the examination before the time period is over, review your answers and make any changes that are necessary. Also make sure that you have marked your answers on the answer sheet correctly.

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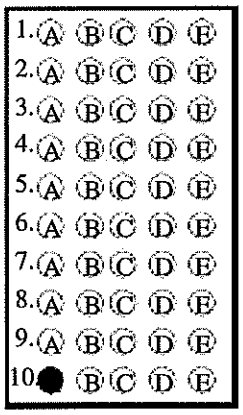
✓ **Guessing.** It is important that you try to get as many points as possible on the examination. Points are given for correct answers only. Because there is no penalty (i.e., points deducted) for guessing on this examination, you should try to answer every question. By leaving yourself enough time at the end of the test to fill in unanswered questions using your "best guess," you will increase the possibility of getting a few of them correct.

Instructions for Using the Answer Sheet

This section describes the procedures used to fill in the answer sheet during the actual examination. All of the questions on the examination will be multiple-choice. *You will mark your answers on a separate answer sheet that will be removed from your test booklet. Detailed instructions on how to use it will be outlined for you at that time.* A sample of the answer sheet has been provided below for your review.



Things to consider when marking the answer sheet:

✓ Make heavy black marks that fill the circles completely. You will notice that on question 10, the circle marked "A" has been filled in. This indicates that alternative "A" has been selected as the correct answer for question 10. This is the correct way to mark your answer sheet. The reason that we ask you to take such care in marking your answer sheet is that the computer is not able to recognize other marks such as checks (✓), **X**'s, partially filled-in circles, etc. If the computer encounters poorly erased responses or incomplete or stray marks on your answer sheet, you may not receive credit for a correct answer.

✓ Erase any answers you wish to change completely.

✓ Do not make any other marks on the answer sheet.

✓ Use a #2 pencil ONLY. Pencil is required to complete the answer sheet because the computer will read these marks to calculate your score. Do not use ink or ballpoint pens.

✓ Place ALL of your answers on the answer sheet. Only answers on the answer sheet will be scored. *You may use your examination booklet as scratch paper*, but be certain to record your answers on the answer sheet.

✓ Be sure that the number of the question you are working on corresponds with the number that you fill in on the answer sheet. For example, if you are working on question 37, make sure that

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you fill in your answer in the space for question 37 on the answer sheet. Periodically check yourself to make sure that your answers are in the correct spaces.

✓ There are five alternatives (A, B, C, D and E) listed on the answer sheet for each question. Please be sure that you mark your answer in the appropriate column.

Areas of Measurement

Cognitive Ability Areas

The information presented in this section of the *NFSI Study Guide* will assist you in becoming familiar with the structure of the cognitive abilities section of the examination. The eight cognitive abilities measured are verbal comprehension, verbal expression, problem sensitivity, deductive reasoning, inductive reasoning, information ordering, mathematical reasoning and number facility. A brief definition of each cognitive ability is presented along with sample questions to orient you to the different question formats.

It is important to note that all the questions presented in this area are designed to measure your basic cognitive abilities. *While these questions are presented using firefighting and emergency medical scenarios, no prior knowledge of firefighting or emergency medical services is required to answer any question on this examination.* Some questions will present specific firefighting and EMT procedures. *You should answer all questions in this section solely on the basis of the information presented in the question.* Further, it should be noted that

procedures and definitions contained in test questions are not necessarily those of any particular fire department.

Following is the format that will be used to familiarize you with the areas of measurement on the examination.

Definition

In this section, each cognitive ability is defined, and you are provided with examples of how it applies to the job of an entry-level firefighter.

Sample Questions

In each of the cognitive ability areas, two sample questions are given to illustrate the types of questions that may appear on the examination. Each question is designed to reflect some aspect of the firefighter position. By answering the sample examination questions, you can assess your understanding of the information.

Verbal Comprehension

Definition

Verbal comprehension is the ability to understand language, either written or spoken. This ability involves both the understanding of individual words as well as patterns of words (sentences and phrases). This is the ability to hear a description of an event and understand what happened. This is also the ability to read a sentence or series of sentences and understand the meaning. This ability might be used in reading narrative material such as an incident report or the fire safety code, listening to descriptions of events, places or people, receiving radio

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communications, or following verbal work orders.

Sample Questions

Use the information in the following passage to answer sample questions 1-2.

Engine 14 was dispatched at 6:02 a.m. to assist an elderly woman who was complaining of chest pains. The firefighters arrived at 1704 W. Sunnyvale, #2N at approximately 6:09 a.m. Firefighter Heine and Chambers exited the engine immediately and approached the apartment building. When Firefighter Chambers knocked on the door, a man and woman greeted her. The man identified himself as Mr. Miyamoto. The woman said that she was a neighbor. Mr. Miyamoto led the firefighters through the entry hall into the living room where Mrs. Miyamoto was lying on the sofa. The neighbor walked through the study and into the kitchen to get Mrs. Miyamoto a glass of water. Mrs. Miyamoto appeared pale and was obviously in pain. Both firefighters knew Mrs. Miyamoto. This was the third time they had responded to a 911 call at this address. The first two calls had been for heart-related problems.

Firefighter Heine greeted Mrs. Miyamoto and asked her specific questions concerning her current condition. Mrs. Miyamoto was alert and answered the questions clearly. Mrs. Miyamoto also exhibited a normal speech pattern, and her breathing was normal in both rate and depth. Firefighter Heine took Mrs. Miyamoto's pulse: 110 and weak. Her wrist was warm and damp.

Firefighter Heine decided that Mrs. Miyamoto should be transported to the hospital immediately. She was given oxygen, lifted onto a gurney and wheeled out of the apartment to an ambulance waiting at the curb. The ambulance departed for the hospital at 6:22 a.m. and arrived at 6:31 a.m. Mr. Miyamoto accompanied his wife. The firefighters gathered their equipment and locked the door to the apartment. Mrs. Miyamoto's chest pains were diagnosed as angina. She was treated and released from the hospital three hours later.

1. The room where Mrs. Miyamoto was found by firefighters was the _____.

a) entry hall
b) living room
c) kitchen
d) bedroom
e) study

2. Mrs. Miyamoto arrived at the hospital at _____.

a) 6:02 a.m.
b) 6:09 a.m.
c) 6:22 a.m.
d) 6:30 a.m.
e) 6:31 a.m.

The answers to sample questions 1 and 2 are as follows:

1. b
2. e

The answers to sample questions 1 and 2 are taken directly from the descriptive scenario. If you have trouble determining the correct answer, *carefully* reread the passage for clues.

Verbal Expression

Definition

Verbal expression is defined as the ability to

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use language (either verbal or written) to communicate information or ideas to other people. These other people might include other firefighters, fire officers, witnesses, arson suspects, fire victims or any individual with whom the firefighter might come into contact. This ability includes vocabulary, knowledge of distinctions among words, knowledge of grammar and the way that words are ordered.

Sample Questions

For sample question 3, please choose the appropriate word or phrase to complete the following sentence.

3. As soon as they arrived, the firefighters decided to _____ unmediated firefighting maneuvers.

a) begin
b) began
c) had began
d) had begun
e) did begin

For sample question 4, identify which one of the underlined words is spelled incorrectly.

4. The lungs and respiratory tract are more vulnerable to injury than any other body area. Gases asociated with fires are dangerous and must not be inhaled.

a) respiratory
b) vulnerable
c) asociated
d) dangerous
e) inhaled

The answers to sample questions 3 and 4 are as follows:

3. a
4. c

Sample questions 3 and 4 are measuring one's ability to use language to communicate information or ideas to other people. Based on the information provided for you in the sentence, you must answer sample questions 3 and 4 using the alternative that makes the most sense and gives the correct meaning to the sentence or choose the word that is spelled incorrectly. If you are having trouble answering these questions, refer to information on basic grammar and spelling.

Problem Sensitivity

Definition

Problem sensitivity is the ability to recognize or identify the existence of problems. It involves both the recognition of the problem as a whole and the elements of the problem. Problem sensitivity does not include the ability to solve the problem, only the ability to identify or recognize it. An example might be the identification of interpersonal conflict within the stationhouse.

Sample Questions

Use the information in the following paragraphs to answer sample questions 5-6.

Firefighter Perez has been observing the behavior and attitude of Firefighter Swartz,

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the new man recently assigned to the company. Perez has noticed that Swartz is usually cheerful and happy but on occasion will appear to be restless and nervous. Perez attributed the mood swings to problems at home but began to wonder when Swartz's behavior started to vary during the shift. One day, when Swartz was acting particularly restless, Perez asked Swartz if everything was okay in his personal life. Swartz told Perez to mind his own business. Several hours later, Swartz, appearing much more relaxed, approached Perez and apologized for being rude. He assured Perez that everything was okay at home and that there were no problems whatsoever. Perez was not convinced.

5. Based on the information given in the paragraph, if Swartz were having a problem, it would most likely be

_____.

a) financial
b) health-related
c) drug-related
d) marital
e) related to his children

Firefighters were called to a fire at a single family dwelling at 4901 Damen Avenue. The cause of the fire was a gas oven leak. One of the homeowners, in her mid-forties, spoke with Firefighter Dellevin about the incident. Her husband refused to comment. While preparing dinner for her family, the stove began to sputter and subsequently ignited. Firefighter Dellevin recorded this information in her report. An area of the incident report requires firefighters to note the condition of all victims. Firefighter Dellevin noticed that the woman had some old bruises along with what appeared to be recent bruising on her neck and legs. She asked the woman how she received these bruises, and the woman nervously replied that she had fallen while bike riding earlier that day. Firefighter Dellevin was not convinced that this was the reason for the bruises.

6. Based on the information given in the paragraph, if the woman were having a problem, it would most likely be

_____.

a) drugs
b) problems with bike riding
c) problems with her children
d) job stress
e) domestic violence

The answers to sample questions 5 and 6 are as follows:

5. c
6. e

The answers to sample questions 5 and 6 are based on one's ability to identify the elements of a problem situation. Information is presented in each passage to give you clues about the problem situation. For example, in sample question 5, specific information about Perez's erratic change in mood and attitude are clues that he may be using drugs. In sample question 6, the woman does not give a credible explanation of her injuries and also appears nervous, potentially suggesting domestic violence.

Deductive Reasoning

Definition

Deductive reasoning is the ability to apply general rules or regulations to specific situations or to proceed from stated principles to logical conclusions. An

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example might be the decision to use one chemical or mechanical fire-extinguishing agent over another or one medication over another.

Sample Questions

Use the information in the following passage to answer sample questions 7-8.

The following is a list of the six most common categories of medications that are relevant to patient care:

Analgesics: prescribed for temporary pain relief, fever control and reduction of inflammation.

Anti-arrhythmics: prescribed for the treatment of heart rhythm disorders.

Anti-convulsants: prescribed for prevention and control of seizures.

Anti-diabetic agents: prescribed to help maintain healthy blood-sugar levels in hypoglycemic (low blood sugar) patients and to provide insulin, which allows the body to regulate the body's metabolism of sugar.

Anti-hypertensives: prescribed for the reduction of high blood pressure by relaxing the sympathetic nervous system, which in turn relaxes the walls of the arteries and arterioles.

Bronchodilators: prescribed to provide relief of bronchial asthma and other allergies affecting the respiratory system by relaxing the smooth muscles of the bronchial tubes.

7. According to the medications described above, if a person were having trouble breathing due to dust and pollen, what category of medication would be prescribed?

a) Analgesics
b) Anti-arrhythimics
c) Anti-convulsants
d) Anti-hypertensives
e) Bronchodilators

8. On a windy fall day, a child playing at recess sprains her right ankle. The school nurse would prescribe _____ to treat the child.

a) analgesics
b) anti-arrhythmics
c) anti-convulsants
d) anti-hypertensives
e) bronchodilators

The answers to sample questions 7 and 8 are as follows:

7. e
8. a

Sample questions 7 and 8 are dependent upon distinct information provided in the passage about the six most common categories of medications relevant to patient care, which are used to treat very specific medical symptoms. You are asked to apply your knowledge of medications from the passage and apply it to a specific situation. For example, in sample question 7, the only medication described that treats allergies is bronchodilators. If you are having trouble answering these questions, please reread the passage more *carefully*, focusing on the type of medication and the situations where it would be used.

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Inductive Reasoning

Definition

Inductive reasoning is the ability to find a rule or concept that fits the situation. It also involves understanding how a string of events might be connected. One example of this ability is determining the point of origin of a fire or finding repeated violations of a fire code during building inspections.

Sample Questions

Use the following information to answer sample questions 9-10.

A drunk driver barreling down Washington Street runs through a four-way stop intersection and strikes the side of a minivan traveling through the intersection, pushing it into a car parked on the side of the street. Four people call 911. The area dispatch center alerts police, emergency medical service and fire-rescue units simultaneously.

Firefighters arrive on the scene and proceed to assess the situation. They examine the scene, the vehicles and their drivers. The drunk driver is sitting in her car holding her forehead, and blood is oozing through her fingers. A man is trapped in the minivan that was hit broadside. He was not wearing a seatbelt. He appears to be unconscious, but there is no apparent bleeding. A firefighter determines that there is some swelling in his chest and abdomen, and from the angle of his left arm, it appears that it is broken. The firefighter also suspects possible internal injuries. The man must be removed from the minivan immediately.

A firefighter gains access to the minivan through a side door and begins to assess the condition of the man more closely. After initial stabilization, the firefighter covers him with a blanket to protect him from breaking glass while two other firefighters begin to cut out the windshield. After the man is safely extricated from the minivan through the windshield, he is transported to the local trauma center for further assessment and treatment of his injuries.

The drunk driver also receives attention. Other firefighters assess her injuries and general physical condition. Other than the wound on her forehead, there are no apparent injuries. However, one pupil is dilated. The firefighter suspects this woman has suffered a serious head injury. She is immediately placed on a gurney and transported to the trauma center.

9. Most likely, what injury of the minivan driver indicates internal bleeding?

a) Slurred speech.
b) One dilated pupil.
c) Swelling of the abdomen.
d) Broken leg.
e) Cut on forehead.

10. Which of the following would be an appropriate title for this passage?

a) "Multiple-Vehicle Car Accidents."
b) "Vehicle Rescue Procedures."
c) "How to Remove a Minivan Windshield."
d) "Accident Victim Assessment at the Scene of an Emergency."
e) "The Consequences of Drinking and Driving."

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The answers to sample questions 9 and 10 are as follows:

9. c
10. d

As stated previously, inductive reasoning is the ability to find a rule or concept that fits the situation and involves understanding how a string of events might be connected. In sample question 9, information was presented on the injuries sustained by the minivan driver, which gives you some clue as to where those injuries came from.

Sample question 10 asks that you look at all of the information presented and determine the main point or theme of the passage. It may be valuable to re-read the passage to determine the main theme. Re-reading the answers to the questions and thinking about the passage may also give you some insight into the main theme.

Information Ordering

Definition

Information ordering is the ability to apply rules to a situation for the purpose of putting the information in the best or most appropriate sequence. In order to use this ability, rules or instructions must exist for the person to know the correct order of information. Information ordering involves the application of specific sequences or procedures to a given situation. An example of the use of this ability might be when a firefighter is deciding which set of procedures to follow first and which to follow thereafter.

Sample Questions

Use the following information to answer sample questions 11-12.

Firefighters are not only taught how to extinguish fires, they are also taught how to treat those injured in a fire. It is important that they learn to treat serious injuries such as burns, broken bones, cuts and abrasions, heart failure, and breathing problems. Because these medical emergencies are likely to occur at the site of a fire, basic first aid is an essential part of the job. Surprisingly, firefighters do not commonly deal with burns. The more common injuries at a fire site involve respiratory problems, heart failure and shock.

If an individual has no heartbeat or pulse, a firefighter should first remove the victim from the path of the fire and then initiate CPR (cardiopulmonary resuscitation). Once a victim's heartbeat and breathing are restored, other injuries can be treated. Degrees of seriousness in descending order are bleeding wounds, shock and broken bones. Minor cuts and abrasions would, of course, have the lowest priority.

11. Of the conditions listed below, which would be the one that should be treated **last?**

a) Deep bleeding wound
b) Heart failure
c) Sprained ankle
d) Shock
e) Minor cuts

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12. Determine the order in which you would treat the injuries listed in sample question 11.

a) e, b, c, a, d
b) b, a, d, c, e
c) c, b, d, a, e,
d) a, b, e, d, c
e) d, a, b, e, c

The answers to sample questions 11 and 12 are as follows:

11. e
12. b

Sample questions 11 and 12 address the order of treatment for medical conditions based on information presented in the passage. It may be helpful to re-read the passage and write down the order of the medical conditions as they are presented to you.

Mathematical Reasoning

Definition

Mathematical reasoning is the ability to reason through mathematical problems in order to determine appropriate operations that can be performed to solve them. An example of mathematical reasoning is considering the volume and kind of materials in a room to determine the amount of time the room would take to burn.

Sample Questions

Use the following information to answer sample questions 13-14.

13. Use the table below to determine which statement most accurately describes the relationship between the hose length and the number of firefighters needed to carry a hose.

Hose Length	Number of Firefighters Needed to Carry the Hose
40 feet	1
80 feet	2
120 feet	3
160 feet	4

a) As the hose length is increased by 40 feet, the number of firefighters needed to carry it is doubled.
b) As the hose length is increased by 40 feet, the number of firefighters needed to carry it is tripled.
c) The longer the hose, the fewer the number of firefighters needed to carry it.
d) As the hose length is increased, one additional person is needed for each 40-foot increase.
e) As the hose length is decreased, one additional person is needed for each 40-foot decrease.

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14. While training to be a firefighter, candidates are tested on their physical ability to run to the top of a simulated burning building while carrying a 150-foot fire hose and wearing an oxygen tank. Using the following table, determine the statement that most accurately describes the relationship between the number of floors and the time needed to reach them.

Time	Number of Floors
3.3 seconds	1
5.3 seconds	2
7.3 seconds	3
9.3 seconds	4

a) As the time is increased by two seconds, the number of floors reached is doubled.
b) As the time is increased by two seconds, the number of floors reached is tripled.
c) As the time is increased by two seconds, the number of floors reached is decreased.
d) The longer the time, the fewer floors climbed.
e) The longer the time, the more floors climbed.

The answers to sample questions 13 and 14 are as follows:

13. d
14. e

Sample questions 13 and 14 are asking for the identification of specific quantitative patterns in the information provided. If you had trouble answering these questions correctly, re-read each passage and identify those mathematical patterns.

Number Facility

Definition

Number facility is the ability to manipulate numbers in numerical operations such as addition, subtraction, division and multiplication. This ability also involves the speed and accuracy of computation. An example is determining the size of a hole needed to ventilate a burning building.

Sample Questions

Please calculate the correct answers to sample questions 15-16.

15. There is no apparent means of entry into a smoke-filled room. The firefighter uses a hatchet to make a 5-foot by 6-foot opening in the wall. How large is the opening?

a) 10 sq. ft.
b) 15 sq. ft.
c) 20 sq. ft.
d) 25 sq. ft.
e) 30 sq. ft.

16. If the average height of a story in a residential apartment building is 13 feet, what size ladder is needed to reach the top floor of a six-story apartment building?

a) 52 ft.
b) 65 ft.
c) 78 ft.
d) 91 ft.
e) 104 ft.

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The answers to sample questions 15 and 16 are as follows:

15. e
16. c

Both sample questions 15 and 16 rely on your knowledge of and accuracy with computation, specifically multiplication. If you are having difficulty answering these questions, refer to information on basic computation such as addition, subtraction, division and multiplication.

Strategies for Analyzing and Avoiding Errors

Six common explanations for choosing incorrect responses are presented to you below, along with suggestions for avoiding these errors. Reading through this section carefully can help you identify and correct any major weaknesses in your test-taking behavior. Sample questions have been presented to you in this guide so that you may practice avoiding these errors.

1. Answer sheet marking errors.

- **Reason:** You may have missed a question because you skipped it and failed to come back to it later.

  Suggestion: Carefully mark skipped questions in your examination booklet and remember to go back to them before the end of the examination period.

  Reason: You may have lost track of the time and were unaware that the examination period was about to end before you could mark any remaining unanswered questions.

  Suggestion: Check your watch often so that you can keep track of how much time you have left. Leave 10 minutes at the end of the examination to go back to any unanswered questions and complete them.

- **Reason:** You may have accidentally marked the wrong answer.

  Suggestion: Periodically glance back at your answer sheet to be sure that you are marking your answers in the appropriate item number and column.

2. Guessing errors.

- **Reason:** You may have been forced to make guesses for questions at the end of the examination because you spent too much time working on difficult questions, rather than skipping them and saving them for later.

  Suggestion: If you did skip difficult questions, it may be because you failed to narrow down the number of alternatives in the question. Be sure to eliminate as many alternatives as possible and choose the alternative that makes the most sense to you.

3. Misreading a question or answer.

- **Reason:** This may occur because you overlooked a key word or phrase.

  Suggestion: When choosing an answer, <u>underline</u> key words and phrases that stand out. Once you have

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underlined the key words and phrases, check the details of the possible answers with the details you underlined, one-by-one. Always keep in mind that you are looking for the *best possible answer* with the most accurate details. Read the questions and answers quickly and thoroughly but try to avoid rushing.

4. **Not knowing the meaning of key words.**

- **Reason:** You may not understand the meaning of some of the words in a sentence or passage.

  Suggestion: When you come to an unfamiliar word, re-read the sentence to determine its general, overall meaning. This is known as "reading for meaning." The meaning of the unfamiliar word should become clearer as you begin to understand the phrases and ideas that surround it.

5. **Answers that "look" good.**

- **Reason:** An incorrect answer may contain an exact phrase from the original question.

  Suggestion: Be cautious of answers containing exact words or phrases from the question. This may be a distracter used to divert you from the correct answer.

- **Reason:** An incorrect answer may overstate information that was presented in the question. For example, if the question says, "Some incidents..." the incorrect answer may say, "All incidents..."

  Suggestion: Stick strictly to the facts described in the examination question itself. Don't be drawn to answers that stretch or exaggerate these facts or rules. This is the time to watch out for words such as "only," "never," "always," "whenever," "all," etc.

6. **You may not know why the answer option is incorrect.**

- **Reason:** Sometimes the reason an answer option is incorrect may not be obvious.

  Suggestion: If you are not certain why some answer options are considered wrong, review the descriptive passage more thoroughly and refer to this study guide for tips.

Other suggestions:

- Have an answer in mind before you look over the alternatives. This will make you less likely to choose an answer that just looks good.
- Be cautious of choosing answers based on common sense or previous knowledge and experience. Choose an answer based ONLY on the material presented in the examination question itself.

Personality Attributes

The information presented in this section of the *NFSI Study Guide* will assist you in becoming familiar with the structure of the personality attributes section of the examination. The three personality attributes measured are stress tolerance, team orientation and motivation/attitude. A brief definition of each personality attribute is presented along with sample statements to orient you to the different formats.

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The items appearing in this section are significantly different from the questions appearing in the cognitive ability section in terms of design and your response requirements. *It is important to note that the statements in this section are not scored in terms of correct or incorrect answers.*
These items are presented as a series of statements for you to respond to by marking the answer that best reflects your opinion. The following five-point scale should be used to indicate your response to each statement presented:

1 - Strongly Agree
2 - Agree
3 - Not sure
4 - Disagree
5 - Strongly Disagree

Your response should be an indication of how you feel about the statement. You should respond honestly to each statement.

Definitions for Personality Attributes

In this section, each personality attribute is defined, and you are provided with examples of how the ability applies to the job of an entry-level firefighter.

Sample Personality Attribute Statements

Sample statements are given to illustrate the types of items that may appear on this section of the examination. Record your response to each statement by marking the number on the scale provided that best represents your opinion.

Stress Tolerance

Definition

Stress tolerance is defined as the ability to deal with the on-the-job stressors of work as a firefighter. The work that a firefighter does can be extremely stressful because it can be dangerous and uncertain. Thus, firefighters must be able to cope with these stressors in a productive and effective way so that their work does not suffer.

Sample Statements

1. I often feel nervous when a deadline approaches.
2. I try to plan my time wisely so that I don't feel so anxious and stressed.
3. Sometimes I set expectations for myself that are unreasonable.
4. I feel relaxed and confident when I am in control of a situation.

Team Orientation

Definition

Team orientation is defined as the ability to function within the team dynamic of the firefighter position and to work effectively with others.

Sample Statements

1. I feel responsible for myself as well as the team.
2. Firefighters must prove themselves to me before I will trust them.
3. I tend to be competitive in a team environment.
4. Working in teams allows for the expression of different ideas.

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Motivation/Attitude

Definition

Motivation/attitude is defined as the ability and desire to carry out the duties of a firefighter to the best of one's ability and to strive to maintain a positive attitude about the job.

Sample Statements

1. I usually work to get what I want.
2. I don't always speak my mind when speaking with others.
3. I give up easily.
4. I always at least try to be nice.

Good luck on the exam!

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