

# Tulsa Fire Department

THE PUBLIC SAFETY SELECTION SPECIALISTS™



Written Entry-Level Examination:  
Orientation and Preparation Guide

Industrial/Organizational Solutions, Inc.

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**Reasonable Accommodation:** Human Resources will make reasonable efforts in the examination process to accommodate persons with disabilities. Please advise Human Resources of special needs in advance of the examination by calling **(918) 596-7433**.



## Introduction

This *Orientation and Preparation Guide* has been developed to introduce you to the *Tulsa Entry-Level Firefighter Written Examination*. The exam 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.

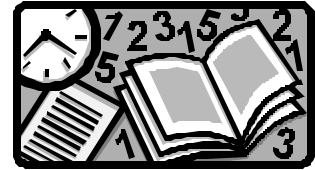
In developing the firefighter written examination, a group of fire service experts from the Tulsa Fire Department (TFD) identified many of the tasks essential to the performance of the job of a firefighter. From these tasks, essential areas for entry-level testing were determined. These areas are as follows:

- ◆ Verbal comprehension
- ◆ Verbal expression
- ◆ Problem sensitivity
- ◆ Deductive reasoning
- ◆ Inductive reasoning
- ◆ Information ordering
- ◆ Spatial orientation
- ◆ Mathematical reasoning
- ◆ Number facility
- ◆ Visualization
- ◆ Selective attention
- ◆ Flexibility of closure
- ◆ Behavioral and attitudinal dimensions

These test areas have been clustered or grouped into two sections on the exam. The cognitive section, which includes 100 items, consists of verbal comprehension, verbal expression, problem sensitivity, deductive reasoning, inductive reasoning, information ordering, spatial orientation, mathematical reasoning, number facility, visualization, selective attention and flexibility of closure items. The last section consists of 140 items that form the behavioral and attitude component of the firefighter examination.

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

## Objectives of the Orientation and Preparation Guide



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

This *Orientation and Preparation Guide* will provide you with a better understanding of the nature and format of questions that will appear on the entry-level firefighter written exam. The exam is designed to measure the TFD job-relevant cognitive abilities and behavioral attributes. You will be tested on 12 separate cognitive abilities and several 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 exam.

**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 exam. 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 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 exam.

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

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

**4) To provide specific instructions for completing the exam 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 correct answers.

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

This *Orientation and Preparation Guide* explains errors typically made by test takers in multiple-choice exams and includes suggestions for avoiding them.

## Exam Specifications

The exam is divided into the following two sections:

Section I: The following twelve job-related cognitive abilities will be tested in this section:



- ◆ Verbal comprehension
- ◆ Verbal expression
- ◆ Problem sensitivity
- ◆ Deductive reasoning
- ◆ Inductive reasoning
- ◆ Information ordering
- ◆ Spatial orientation
- ◆ Mathematical reasoning
- ◆ Number facility
- ◆ Visualization
- ◆ Selective attention
- ◆ Flexibility of closure

Section II: Section II tests several job-related behavioral and attitudinal dimensions that are critical for successful performance in this field.



### Number of Questions

As indicated previously, the test areas have been clustered or grouped into two sections on the exam. The cognitive section includes 100 items. Your score on the behavioral component, or second section, of the firefighter examination will be computed from your responses to 140 additional questions. Your total score is computed from a combination of your scores on the two sections.

### Time Limit

You will be given two-and-one-half (2.5) hours to complete this examination.

## Tips for the Day of the Exam

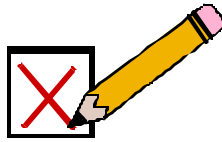


- ✓ **Preparation for the exam.** You will increase your chances of obtaining your best score if you spend some time preparing for the exam. This includes reading this *Orientation and Preparation Guide* and finding out as much as possible about the exam ahead of time, trying to avoid becoming overly anxious about the exam and using good test-taking strategies.
- ✓ **Your physical well-being.** Get a good night's sleep before the exam. Try to ensure that you are in the best possible condition both physically and mentally on the day of the exam.
- ✓ **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 child-care. It would also be wise to anticipate poor weather or traffic delays in traveling to the test site and to allocate extra travel time to ensure an early arrival even with delays. Give yourself ample time to settle in at the test site.
- ✓ **Confidence.** The more confident you are in your abilities, the more likely you are to do well on the exam. Try to stay focused on the exam so that you don't lose your place or read sentences over and over. You want to take control of the exam by feeling confident in your skills. Focus on becoming relaxed but concentrate on the exam you are about to take.
- ✓ **Attitude.** This exam is an opportunity for you to show your skills and abilities, and a positive attitude can have an impact on increasing your test score. There are a few ways to fine-tune your attitude about taking this exam:
  - ◆ Look at this exam as a challenge but try not to get "stressed out" by thinking about it too much.
  - ◆ Remember that passing this exam 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.
  - ◆ Remember that by using this *Orientation and Preparation Guide* and practicing your strategies, you can be more prepared for the exam.

## 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, eraser and a watch. A small pencil sharpener is also recommended but not mandatory. 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 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 will **NOT** be allowed at the test site.
6. Once you are seated for the test, you will **NOT** have access to restroom facilities.
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 Entry-Level Firefighter Written Examination



- ✓ **Listen carefully.** The exam administrator will provide you with complete instructions for taking the exam. Be sure that you pay close attention to all test instructions. It is extremely important that you completely understand the directions before the exam begins.
- ✓ **Ask questions.** If there are instructions that you do not understand or if something is not clear, please feel free to ask the exam administrator any questions that you may have before the exam begins.
- ✓ **Note start and end times.** Just before the test administrator begins the test, make a note of the time the test will actually begin and the time that the test will end.
- ✓ **Keep track of time.** It is important that you keep track of your time so that you are able to pace yourself throughout the exam. Since the score on the cognitive portion of your exam will be based on the total number correct, you will want to work both quickly and efficiently. It is also important that you keep track of time so that you are able to allow a few minutes to provide your best guess on unanswered questions at the end of the exam.
- ✓ **Remain calm.** It is important that you remain calm throughout this exam so that you are able to work most effectively. You can'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 exam. 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 exam.
- ✓ **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 answer options 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.
- ✓ **Answer easy questions first.** It is important that you answer the easy questions first on this exam. 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 answer.** If you believe that 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 exam questions. If time permits, you may be able to return to these items and evaluate them more thoroughly.
- ✓ **Mark your exam booklet.** Mark in your exam booklet those questions that you have skipped so that you are able to come back to them later in the exam. 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 exam booklet. Later in the exam, you may have an opportunity to come back to these questions and answer them without having to read the entire question again.
- ✓ **Extra time.** If you finish the exam 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.
- ✓ **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 exam, 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 exam. All of the questions on the examination will be multiple-choice. *You will mark your answers on a separate answer sheet that you will be given at the examination, and 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.
- ✓ Completely erase any answers you wish to change.
- ✓ Do not make any other marks on the answer sheet.
- ✓ Use a #2 pencil ONLY. Pencil is required to complete the answer sheet because a computer will be reading these marks. 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 exam 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 you fill in your answer on 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. You may want to go back and check your answers periodically to be sure that you have placed your answer in the correct column.

1.	A	B	C	D	E
	○	○	○	○	○
2.	A	B	C	D	E
	○	○	○	○	○
3.	A	B	C	D	E
	○	○	○	○	○
4.	A	B	C	D	E
	○	○	○	○	○
5.	A	B	C	D	E
	○	○	○	○	○
6.	A	B	C	D	E
	○	○	○	○	○
7.	A	B	C	D	E
	○	○	○	○	○
8.	A	B	C	D	E
	○	○	○	○	○
9.	A	B	C	D	E
	○	○	○	○	○
10.	A	B	C	D	E
	●	○	○	○	○

You will notice that on question 10 in the picture above, 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 (✓), Xs, partially filled-in circles, etc. If the computer encounters poorly erased responses, incomplete or stray marks on your answer sheet, you may not receive credit for a correct answer.

# Areas of Measurement



## Cognitive-Ability Areas

The information presented in this section of the *Orientation and Preparation Guide* will assist you in becoming familiar with the structure of the cognitive-abilities section of the exam. It is important to note that all the questions presented in this area are designed to measure the basic cognitive abilities as listed previously. **While these questions may be presented using fire-related scenarios, no prior knowledge of firefighting is required to answer any question on this test.** Some questions will present specific firefighting 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 the TFD or any other agency.

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

### Definition

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

### Sample Questions

In each of the ability areas, two sample questions are provided to illustrate the types of questions that may appear on the exam. Each question is designed to reflect some aspect of the firefighter position. By answering the sample exam 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; listening to descriptions of events, places or people; receiving radio communications; 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 Chambers knocked on the door, a man and woman greeted her. The man identified himself as Mr. Miyamoto. The woman said 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 her. 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. She 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
  
2. Mrs. Miyamoto arrived at the hospital at \_\_\_\_\_.
  - a. 6:09 a.m.
  - b. 6:22 a.m.
  - c. 6:30 a.m.
  - d. 6:31 a.m.

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

1. B
2. D

These answers are taken directly from the descriptive scenario. If you have trouble determining the correct answer, reread the paragraph for clues.

## Verbal Expression

### Definition

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

### Sample Questions

*Choose the appropriate word or phrase to complete the following sentence.*

3. As soon as they arrived, firefighters decided to \_\_\_\_\_ evacuating people immediately.
- a. begin
  - b. began
  - c. had began
  - d. had begun

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

4. The man that committed the crime of arson was sentenced to nine years in a state prison.
- a. committed
  - b. crime
  - c. sentenced
  - d. prison

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

- 3. A
- 4. A

Based on the information provided for you in the sentence, you must answer with the choice that makes the most sense and gives the correct meaning to the sentence or choose the word that is spelled incorrectly.

## 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. This ability does not include the ability to solve the problem, only the ability to identify or recognize it. An example of this ability might include the identification of interpersonal conflict within the stationhouse.

### Sample Questions

*Please use the following information to answer sample question 5.*

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, who was 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. 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. Dellevin was not convinced that this was the reason for the bruises.

5. 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. domestic violence

*Please use the following information to answer sample question 6.*

While trying to land at a local airport on a clear July afternoon, a small four-passenger plane crashed into a home on the edge of a large housing development near the airport. More specifically, the plane crashed in a vacant lot, slid across a street and then hit the house. Fire departments from the airport and local community were dispatched to the scene. As fuel leaked from the fuselage, the plane burst into flames. Firefighters battled the fire by spraying foam on the leaking fluids and on the plane to avoid an explosion. Once the flames had been extinguished, firefighters initiated a search for victims of the crash.

Four unidentifiable bodies were found in the wreckage of the plane and one in the wrecked home. Information from the airport indicated that there was a flight plan on file for this type of plane. It was thought that this was a sightseeing flight with a pilot and three passengers onboard at the time of the crash. It was not immediately apparent what caused the crash, but there was

information that the pilot had recently been experiencing fainting spells and was being treated for them. In fact, the exact cause of the crash was never resolved. What was eventually determined was the identity of the victims. When the sightseers did not return to their homes on time, family members called the airport to inquire about the status of the flight. They had not heard the radio and TV reports of the crash. While driving home, however, the homeowner had heard a radio report that identified the address of the crash. The instant he heard the address, he knew his wife was dead.

6. Based on the information provided above, it is possible that the cause of this crash was due to \_\_\_\_\_.
- a. inclement weather
  - b. a mechanical failure
  - c. the pilot's inexperience
  - d. the pilot's recent health problems

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

- 5. D
- 6. D

The answers to these questions can be deduced from the information contained in the paragraphs above. Many times you will have to use common sense to answer these questions. If you have trouble determining the correct answer to this type of question, be sure to reread any accompanying passages carefully.



## 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 example of this ability might be the decision to use one medication over another to treat an illness based on particular guidelines prescribed by a medical textbook.

### Sample Questions

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

A deadly byproduct of fires is a colorless, odorless gas known as carbon monoxide (CO). The amount of ventilation and the efficiency of the burning process affect the quantity of carbon monoxide in the air. Less ventilation and greater inefficiency in the burning process leads to greater carbon monoxide buildup. Carbon monoxide is of particular concern to firefighters because it can cause serious health problems and possible death. Carbon monoxide, when inhaled, binds with the blood's hemoglobin, disregarding all available oxygen. Oxygen starvation results, where oxygen is no longer transported throughout the body and can lead to hypoxia of the brain and tissues and death, if untreated.

Dangerous levels of carbon monoxide in the air begin at five hundredths of one percent (0.05 percent or 500 parts per million). As levels increase, different physiological problems occur. The following table outlines the toxic levels and effects of carbon monoxide.

Carbon Monoxide (ppm)	Carbon Monoxide (CO) in Air (Percent)	Symptoms
100	0.01	No symptoms
200	0.02	Mild headache
400	0.04	Headache after one to two hours
800	0.08	Headache after 45 minutes; nausea, collapse and unconsciousness after two hours
1,000	0.10	Causes unconsciousness after one hour
1,600	0.16	Headache, dizziness, nausea after 20 minutes
6,400	0.64	Headache, dizziness, nausea after one to two minutes; unconsciousness after 10 to 15 minutes
12,800	1.28	Immediate unconsciousness; danger of death in one to three minutes

7. Based on the information from the table, if an individual is found unconscious after being in a running car for one hour, what is the amount of carbon dioxide in the air?
- 800 ppm
  - 1,000 ppm
  - 1,600 ppm
  - 6,400 ppm
8. Mr. Simms was downstairs in his basement for half an hour when he began to feel a bit lightheaded and sick to his stomach. He developed a throbbing headache. These are all signs of carbon monoxide poisoning. Based on the information from the table, what percent of carbon dioxide is in the air?
- .01 percent
  - .08 percent
  - .10 percent
  - .16 percent

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

- 7. B
- 8. D

The answers to questions 7 and 8 are dependent upon specific information provided in the scenario described above that can be used to come to logical conclusions.

## 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

*Please 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 services, 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?
- Slurred speech.
  - One dilated pupil.
  - Swelling of the abdomen.
  - Broken leg.

10. An appropriate title for this passage would be \_\_\_\_\_.
- a. “Multiple Vehicle Car Accidents”
  - b. “Vehicle Rescue Procedures”
  - c. “How to Remove a Minivan Windshield”
  - d. “Assessing Victims at an Accident Scene”

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

- 9. C
- 10. D

Based on the information provided in the passage above, a rule or concept may be presented that will lead you to certain conclusions about the scenario.

## 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. It 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

*Please use the following information to answer sample questions 11-12.*

The purpose of interviewing a witness at the scene of an arson is to acquire as much relevant information as possible about the incident under investigation. The exact words with which interview questions are asked can influence a witness's answer, so it is important to use language that is as neutral as possible. Arson investigators commonly take the following steps during the interview of a witness:

- 1) Ask objective questions in chronological order, avoiding long and complex questions.
- 2) Identify yourself and state the purpose of the interview.
- 3) Document the interview in a follow-up report.
- 4) Establish a rapport with the witness.
- 5) Show appreciation to the witness for cooperating with the investigation.

11. What is the most logical order of the steps listed above?
  - a. 2, 4, 1, 5, 3
  - b. 4, 2, 1, 3, 5
  - c. 2, 1, 3, 4, 5
  - d. 4, 1, 2, 5, 3
  
12. If notes are taken during the interview, or a tape recording is made of the conversation, which of the above steps is unnecessary?
  - a. 1
  - b. 2
  - c. 3
  - d. 4

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

- 11. A
- 12. C

The answers to the sample questions are based on information provided in the scenario. It may be helpful to write down the order of the steps as they are presented to you.

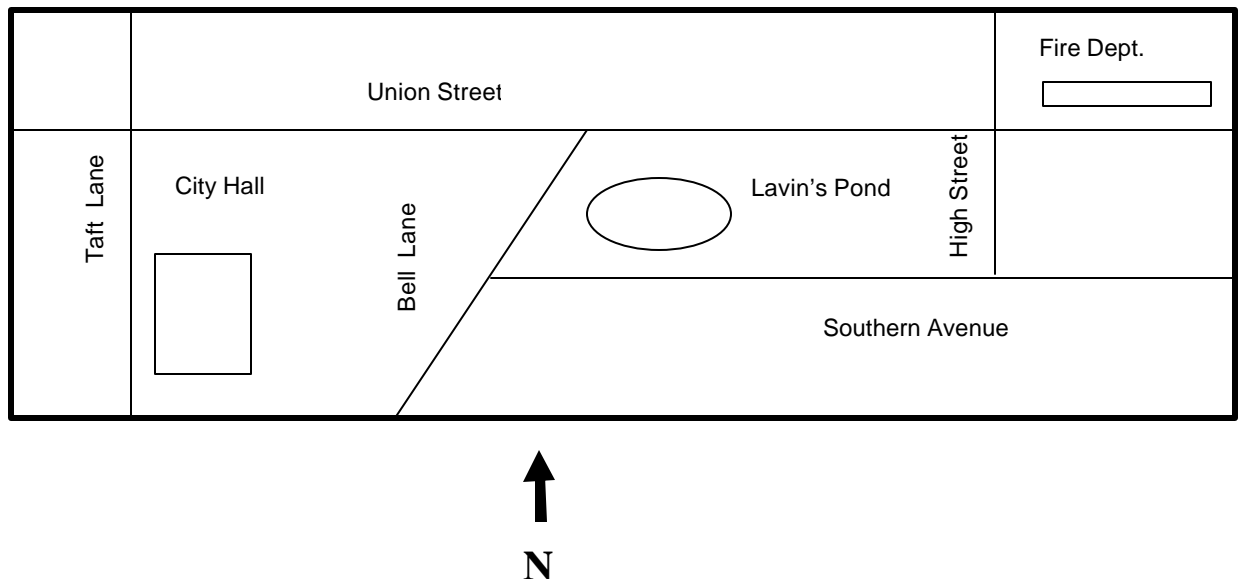
## Spatial Orientation

### Definition

Spatial orientation is the ability to keep a clear idea of where you are in relation to the space you happen to be in. This ability helps an individual avoid getting lost in a particular space whether that space is a city, building or group of structures. With this ability, an individual should be able to look at a map or a layout of an area and determine his or her position in that area. The question that this ability allows the person to answer is “If the environment looks like this, what is my current position?”

### Sample Questions

*Use the following map to answer sample questions 13 and 14.*



13. If you are headed north and just passed City Hall on your right-hand side, which of the following would be the BEST way for you to proceed to the intersection of High Street and Southern Avenue?
- North on Taft, east on Union, and south on High.
  - South on Taft, North on Bell, and east on Southern.
  - North on Taft, east on Union, south on Bell, and east on Southern.
  - South on Taft, east on Bell, and north on High.
14. If you are at the fire department and are facing south, which direction is Lavin's Pond?
- South
  - Southeast
  - Southwest
  - West



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

13. A

14. C

The answers to the sample questions are based on information provided in the map.

# Mathematical Reasoning

## Definition

Mathematical reasoning is the ability to reason abstractly using quantitative concepts and symbols. It encompasses reasoning through mathematical problems in order to determine appropriate operations that can be performed to solve them. It also includes the understanding or structuring of mathematical problems. The actual manipulation of the numbers is not included in this ability. An example of this ability 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

*Please use the following information to answer sample questions 15-16.*

15. 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. The longer the hose, the fewer the number of firefighters needed to carry it.
- c. As the hose length is increased, one additional person is needed for each 40 foot increase.
- d. As the hose length is decreased, one additional person is needed for each 40 foot decrease.

16. 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 table below, determine the statement that most accurately describes the relationship between the number of floors and the time needed to reach them.

<b>Time</b>	<b>Number of Floors</b>
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 is doubled.
- b. As the time is increased by two seconds, the number of floors is tripled.
- c. The longer the time, the fewer floors climbed.
- d. The longer the time, the more floors climbed.

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

- 15. C
- 16. D

Both questions address quantitative concepts and symbols using abstract reasoning. Patterns in the information provided give clues to the correct answer.

## Number Facility

### Definition

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

### Sample Questions

*Please use the following information to calculate the answers to sample questions 17-18.*

17. When firefighters have to enter a burning building, they may have to carry an ax weighing 33.5 pounds, drag a hose weighing 57 pounds and wear a fire protective coat weighing 68 pounds. How many total pounds is the firefighter burdened with upon entering the building?
- a. 150.5
  - b. 154.5
  - c. 157.5
  - d. 158.5
18. Seventy-five dollars per day is provided to firefighters for legitimate expenses to attend a one-day educational seminar. If the cost of the room is \$38.87 after tax and the cost of the car rental is \$18.66 after tax, how much is left over for food expenses?
- a. \$16.47
  - b. \$17.47
  - c. \$27.47
  - d. \$36.13

The answers to sample questions 17 and 18 are as follows:

- 17. D
- 18. B

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

# Visualization

## Definition

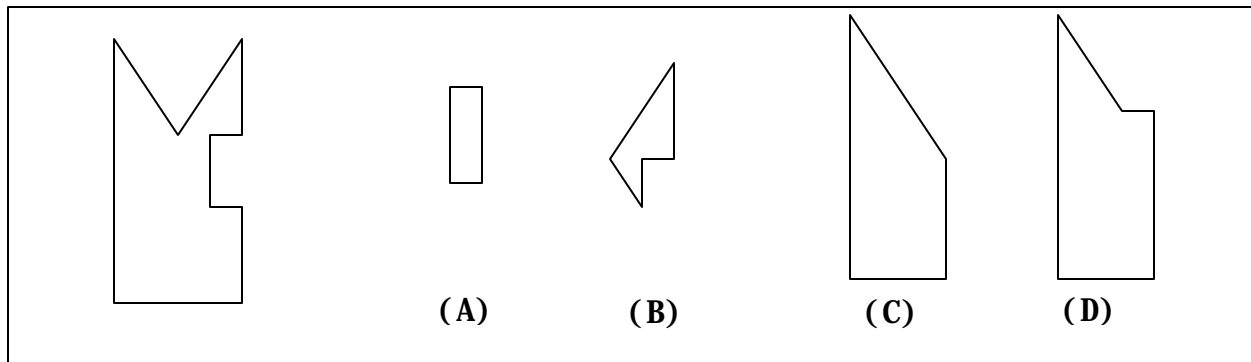
Visualization questions assess your ability to imagine how something will look when it is moved around or when its parts are removed or rearranged. This skill requires the forming of mental images of how patterns or objects would look after certain changes. An example of this ability is determining how peripheral gears will turn if a master gear is turned in a particular direction.

## Sample Questions

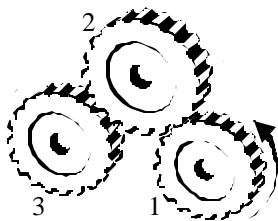
*Please use the images below to answer sample questions 19-20.*

**The large figure on the left can only be made from three of the four pieces to the right of it. Please identify the letter of the piece that is NOT used.**

19.



20.



All three gears pictured above are the same size. If gear 1 were turned in the direction shown, how would gear 3 turn?

- a. In the same direction but faster than gear 1.
- b. In the opposite direction and faster than gear 1.
- c. In the opposite direction and at the same speed as gear 1.
- d. In the same direction and at the same speed as gear 1.

The answers to sample questions 19 and 20 are as follows:

19. D

20. D

Both questions rely on your ability to manipulate objects in space.

## Selective Attention

### Definition

Selective attention questions are designed to test your ability to concentrate on a task without getting distracted by external stimuli. This ability also is involved in maintaining attention to important details during repetitive and monotonous tasks.

### Sample Questions

Sample questions 21-22 contain a set of letters, symbols and numbers. Please choose ONLY ONE option that contains the exact pattern of letters, symbols, numbers and spaces.

21. X!! ηEΞ∅QΔψYΛV5ScΘ%=\ /48
- a. X! ηEΞ∅QΔψYΛV5ScΘ%=\ /48
  - b. X!! ηEΞ∅QΔψYΛV5ScΘ%= / \48
  - c. X!! ηEΞ∅QΔψYΛVS5cΘ%=\ /48
  - d. X!! ηEΞ∅QΔψYΛV5ScΘ%=\ /48
22. ℞≤%≥L T×((X(;±<+=≡) }EEΞΦ\* /#
- a. ℞≤%≥T L×((X(;±<+=≡) }EEΞΦ\* /#
  - b. ℞≤%≥L T×((X(;±<+=≡) }ΞEEΦ\* /#
  - c. ℞≤%≥L T×((X(;±<+=≡) }EEΞΦ\* /#
  - d. ℞≤%≥L T×( X(;±<+=≡) }EEΞΦ\* /#

The answers to sample questions 21 and 22 are as follows:

21. D  
22. C

The answers to sample questions 21 and 22 can be determined by carefully examining the pattern that appears in the stem of the question.

## Flexibility of Closure

### Definition

Flexibility of closure involves someone's skill at finding an object that is somehow hidden within a group of other objects. This would involve picking out a particular face in a crowd of faces or determining the type of flammable material from the shades of color in the smoke. In this case, the individual knows what he or she is looking for; the task is to identify the one pattern that is buried in a larger pattern. Speed is not important in this ability.

### Sample Questions

*Please use the following picture to answer sample questions 23-24*

7	9	5	2	4	1	5	4	5	2	5
4	5	0	5	8	6	7	5	1	8	5
4	8	3	2	5	7	1	5	6	9	4
1	8	2	6	5	4	8	6	4	7	8
7	2	5	9	4	8	2	3	0	1	4
2	5	4	8	7	8	0	1	5	8	4
3	8	7	4	2	5	3	5	8	6	0
0	2	4	5	8	7	6	3	5	5	5
2	4	8	5	6	2	4	8	7	5	8
1	3	4	8	6	9	7	2	5	1	5
7	3	2	5	8	4	5	6	9	8	4
1	8	5	2	6	5	4	8	7	2	5
1	9	3	2	3	6	4	8	2	5	7
4	8	5	2	6	3	9	6	5	1	7
0	8	5	5	8	6	3	7	5	8	4

23. How many 0's appear in the box above?

- a. 4
- b. 5
- c. 6
- d. 7

24. How many 8's appear in the box above?

- a. 25
- b. 26
- c. 27
- d. 28



The answers to sample questions 23 and 24 are as follows:

23. C

24. B

The answers to sample questions 23 and 24 are provided in the picture above.

## Strategies for Analyzing and Avoiding Errors



Six common causes 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 were presented earlier to help you 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:** Be sure you mark skipped questions in your exam booklet and remember to go back to them before the end of the exam period.

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

**Suggestion:** Be sure to check your watch often (time goes by quickly during an exam) so that you can keep track of how much time you have left. Leave five minutes at the end of the exam so that you are able to go back to any unanswered questions and complete them.

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

**Suggestion:** Periodically look 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 exam 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, underline key words and phrases that stand out. Once you have 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 you are looking

for the **best possible answer** with the most accurate details. Read the questions and answers quickly and thoroughly but try not to rush through them.

#### 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, reread the sentence to determine the overall meaning of the sentence. 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..." an incorrect answer may say, "All incidents..."

**Suggestion:** Stick strictly to the facts described in the exam 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 an answer option is wrong.

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

**Suggestion:** If, while answering the sample questions, you were not certain why certain answer options were considered incorrect, review this study guide thoroughly.

#### 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 wary of choosing answers based on common sense or previous knowledge and experience. Choose an answer based **ONLY** on the material presented in the exam question itself.



## Behavioral and Attitudinal Attributes

The information presented in this section of the *Orientation and Preparation Guide* will assist you in becoming familiar with the structure of the behavioral attributes section of the exam. Several behavioral dimensions are measured that are highly related to successful performance on the-job.

The questions appearing in this section are significantly different from the questions appearing in the cognitive abilities section in terms of design and requirements for your response. **It is important to note that the statements in this section are not rated in terms of correct or incorrect answers.** This section does, however, contribute to your test score. These items are presented as a series of statements for you to respond to by marking the answer that best fits your opinion. The following five-point scale is provided for you to record 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.

### Sample Behavioral Attribute Statements

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

## Sample Behavioral Attribute Statements

Please rate the sample behavioral attribute statements using the following scale. It is important that you do not over-analyze the statement or try to answer in a socially desirable manner. Be as open and honest as you can when making your ratings. Remember, there are no correct or incorrect answers.

*1 - Strongly Agree*  
*2 - Agree*  
*3 - Not Sure*  
*4 - Disagree*  
*5 - Strongly Disagree*

1. I am sometimes nervous around friends.
2. I enjoy trying to make others feel comfortable in new situations.
3. When I am uncertain of how to do a task, I will usually ask for clarification.
4. I am more assertive than most of my friends.
5. Most people feel stressed when they get home from work or school.
6. I work best as part of a large team or group project.
7. Sometimes I say one thing when I really mean something else.