

# Firefighter Entry Level Examination Study Guide



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## **OVERVIEW**

One of the first steps toward becoming a firefighter for the City of Mission is taking and passing a written examination. This examination study guide was written specifically to assist you with test preparation, with understanding the different components of the written examination, as well as providing helpful hints on test taking, and lastly, to provide you with sample exam questions.

The Entrance Exam for firefighter measures the basic skills necessary to perform successfully as a firefighter. The test covers four areas: (1) math skills, (2) reading comprehension skills, (3) spelling skills, (4) vocabulary skills, (5) mechanical aptitude skills, and (6) ability to understand logical sequences.

Upon arrival to take the written test, applicants will need to allot up to three (3) hours of time for the examination. Dress appropriately and comfortably; business attire is not required. You may want to dress in layers in the event the test room is too warm or too cold.

It is important to follow oral and written instructions that are given to you prior to and during the examination. Failure to follow test day instructions can be detrimental to your final score and you could be disqualified for failure to follow instructions. It is therefore, important to ask the examination administrator for assistance if you do not understand any of the instructions. It is each test taker's responsibility to manage their time.

Scratch paper is not provided; however, you are encouraged to use the examination booklet as your "scratch paper" and write directly in it if it is helpful. Examinees will not be allowed to utilize items of assistance, including, but not limited to, cell phones, PDA's, calculators, documents, dictionaries, or any other aid.

## **EXAM TIME LIMIT**

The examination is designed to provide a maximum of three (3) hours to take the exam. It is in the exam taker's best interest to answer all the questions. If you do not know the answer to a question, you should consider skipping it and return to that question later. As the exam time concludes, be sure you have answered all the questions. If you have some extra time at the end of the exam, you should review your answers and be sure to answer any questions you skipped.

It is an advantage to answer all the exam questions. If you are not sure which answer is correct, eliminate choices you feel certain are wrong. If you can narrow the number of possible correct choices, you increase your chances of answering the question correctly.

## **HONOR/INTEGRITY**

Cheating on exams will not be tolerated. No exceptions. Applicants will be asked to leave the room immediately and disqualified for future testing.

## **GENERAL POLICIES**

- The testing room will close promptly at the start of the examination.
- Photo identification is required for testing.
- Snacks or drinks are prohibited in the testing area.
- No late arrivals. The testing room is closed when the examination begins.
- Cell phones and other electronics are not allowed in the examination room. Please secure them prior to entering the test site.
- Test materials are to remain within the examination room.
- Books, notes and any other test aids not approved by the examination administrator shall be removed from the room.
- Appropriate testing accommodations are available for those with documentation of special needs. If special accommodations are required, contact the City of Mission Human Resources Department as soon as possible.
- Individuals may not be accompanied by anyone while testing.
- Exam takers are responsible for adherence to test instructions.
- Coats, hats, purses, book bags and other personal belongings are discouraged to in the testing room.

## **TIPS ON TESTING ANXIETY**

Try to eat healthy meals and snacks. Avoid junk food. A good night's rest the night before is essential and an appropriate meal before the exam will help with hunger pains and noisy stomachs.

Familiarize yourself with the examination site location and where the parking is. Internet maps (Google, Yahoo, MapQuest, etc.) provide a great source to pinpoint the exam site.

Most importantly, do not be late for the examination. Even if you are not a typical "early arrival person," strive to be early (at least one-half hour) the day of the examination. The extra downtime before the exam may help settle testing anxiety.

## **DAY OF THE EXAM**

Arrive at least thirty minutes early on the day of the exam. Applicants who are late will be denied permission to take the exam. It is critical to bring photo identification such as a driver's license or other official picture identification. If you fail to bring official government identification, you will not be permitted to test. Comfortable, casual attire is recommended as the written exam is designed to take up to three (3) hours. The City of Mission will provide all necessary supplies, such as scratch paper and pencils. You are again reminded that you are not allowed to bring in any paper, books, notes, cell phones, PDA's, other any other items of assistance.

## **WHAT IS ON THE EXAM**

The exam consists of one hundred (100) questions covering the following subject areas:

- Reading Comprehension
- Mathematics
- Logical Sequence
- Spelling
- Vocabulary
- Mechanical Aptitude

## **HOW THE EXAM IS SCORED**

The exam is 100 multiple choice question, with four (A, B, C, or D) possible answer choices. The exam is graded on the number of correct answers. You should not leave any answers blank. Any unanswered question is automatically counted as wrong.

Please mark your answers clearly and directly on the examination. Write the letter (A, B, C, or D) in the space indicated next to each question. Should you make changes, please erase completely. There should only be one answer marked for each question. You may write in your test booklet if it assists you in working through the questions.

As previously stated, if you do not know the answer to a question, you should consider skipping it and return to that question later. As the exam time concludes, be sure you have answered all the questions. It is better to guess at an answer than to leave it blank. If you have some extra time at the end of the exam, you should review your answers and be sure to answer any questions you skipped.

Each correct response will receive one point. The highest possible raw score is 100. Applicants must make a minimum of 70% to successfully pass the examination.

## **Math Skills**

In the math portion of the exam, examinees are provided with situations that require the use of basic arithmetic. Examinees will be required to read a word problem, apply the appropriate arithmetic operations, and then select the correct multiple-choice answer.

### **Sample questions**

1. Chief Jones is responsible for the overall fiscal management of the departmental t-shirt sales program. Each shift (A, B, and C) is responsible for sales on their shift and now that it is at the end of the month, the shifts have turned over their money to Chief Jones. The shifts turned over the following bills to Chief Jones:

	<u>100's</u>	<u>50's</u>	<u>20's</u>
A Shift	20	2	10
B Shift	50		
C Shift	10	10	50

How much cash did the three shifts turn in to Chief Jones?

- A. \$2,300  
 B. \$2,500  
 C. \$5,000  
 D. \$9,800
2. The new fire equipment costs \$25,000. For the order to be placed, the agency must pay 10% of this in advance. How much must the agency pay?
- A. \$25  
 B. \$250  
 C. \$2,050  
 D. \$2,500
3. The firetruck skidded 8 feet, 11 inches before crashing and coming to a complete stop. The accident report must list the distance in inches only. What distance should be entered on the report?
- A. 12  
 B. 88  
 C. 107  
 D. 132
4. An appliance store is burglarized and 21 clock radios with a total value of \$1050 are stolen. What is the average value of the radios?
- A. \$21,575  
 B. \$50.00  
 C. \$105.50

\_\_\_\_\_ D. \$22,050

**Math Skills (continued)**

5. On Thursday, Firefighter Faber worked the 3 p.m. to 11 p.m. shift. At 10:55 p.m. he was called to the scene of an accident where he remained until 1:30 a.m. How long past his regular shift did Firefighter Faber work?

\_\_\_\_\_ A. 2 hours 30 minutes  
\_\_\_\_\_ B. 1 hour 10 minutes  
\_\_\_\_\_ C. 2 hours 15 minutes  
\_\_\_\_\_ D. 3 hours 25 minutes

6. The Fire Chief is called to an accident scene across town from her present location. If she travels three miles on Navarro Road, thirteen miles on Route 66, and 14 miles on Interstate 45, assuming she is traveling 60 mph, how long will it take to arrive at the accident scene?

\_\_\_\_\_ A. 15 minutes  
\_\_\_\_\_ B. 1 hour  
\_\_\_\_\_ C. 20 minutes  
\_\_\_\_\_ D. 30 minutes

7.  $8\frac{1}{3} - 5\frac{5}{6} = X$ . Which of the following equals X?

\_\_\_\_\_ A.  $2\frac{1}{2}$   
\_\_\_\_\_ B.  $4\frac{1}{4}$   
\_\_\_\_\_ C.  $4\frac{1}{6}$   
\_\_\_\_\_ D.  $2\frac{1}{3}$

8. Calculate the following equation: Eight vehicles set out to drive to a destination that is 50 miles away. Only seven vehicles complete the trip and the eighth vehicle only completed 50% of the journey. What are the total miles that all eight vehicles drove?

\_\_\_\_\_ A. 375  
\_\_\_\_\_ B. 225  
\_\_\_\_\_ C. 900  
\_\_\_\_\_ D. 450



## **Reading Comprehension Skills**

In the reading comprehension portion of the exam, examinees will read passages and will then answer questions based on these passages. No prior knowledge of the fire service will be needed to answer the questions. All the information needed to answer the questions will be provided in the passage.

### **Sample questions**

Read the sample passage below and then answer the sample questions. An example of each type of question is provided.

Questions 1-3 are based on the following passage:

In recent years, nearly 80% of civilian fire deaths occurred in residential settings. A quick search and rescue by fire personnel is essential in saving lives. During the primary search, which is rapid and thorough, firefighters should look for victims as close to the source of the fire as possible and work outward. Experience has shown that victims are typically found in the area behind or near the front door. Other high target areas to be searched are the bedrooms and bathrooms. Children most often hide under their beds and in closets, though firefighters should search the latter area only as far as their arms will reach. Fire victims also seek refuge in the bathroom, believing the tub and water will protect them.

1. According to the sample passage, the primary search is which of the following?

- A. Slow and thorough.
- B. Begins in the bedroom or bathroom.
- C. Begins as close to the source of the fire as possible.
- D. Begins at the front door.

2. According to the sample passage, in a home fire, children:

- A. Can be found where the fire started.
- B. Will often hide under their bed.
- C. Usually run out of the front door.
- D. Can always be found in the bathtub.

3. According to the passage, firefighters should search in closets:

- A. Only after the bathrooms have been searched.
- B. Only as far as their arms will reach.
- C. If children live in the residence.
- D. Lastly

## Reading Comprehension Skills (continued)

Questions 4-6 are based on the following passage:

Steve Lombardi, owner of Handyman Supplies at 1510 N. Nancy Bell Road, Houston, Texas called 9-1-1 at 1600 hours, Friday, July 1 to report that his store had been burglarized that evening. Officers Taylor Brown and Mike Grayson arrived at the store at 1610 hours to investigate the incident. Officer Grayson and Officer Brown noticed a green Chevrolet Malibu driving slowly from the area as they arrived, a yellow Ford truck was parked out front of the business, and a red Oldsmobile Delta 88 was in the driveway across the street. Mr. Lombardi reported that four high end drills, five hammers, and \$198.64 from the cash register were missing. Mr. Lombardi found three impact wrenches, eight boxes of nails, and five toolboxes that were just inside the back door that the thieves apparently did not have time to come back and get.

4. Which of the following vehicles were the suspects positively identified to be in?

- A. Yellow Ford truck
- B. Red Oldsmobile Delta 88
- C. Green Chevrolet Malibu
- D. None of the above are correct.

5. The incident was reported to police on which of the following dates:

- A. Thursday, July 15
- B. Friday, July 1
- C. Friday, July 21
- D. Wednesday, July 11

6. How many total tools were stolen from the store?

- A. Three
- B. \$198.64
- C. Nine
- D. Sixteen

## Language Skills (Vocabulary & Spelling)

In the language skills portion of the exam, examinees are required to identify errors in grammar, punctuation, or spelling. There are two types of questions presented in this section. The first type presents incomplete sentences, and the examinee must choose the alternative that best completes the sentence. The second type presents sentences that possibly contain a spelling error, and the examinee must choose the alternative answer that contains the misspelled word or select that the word is spelled correctly.

### Sample questions

1. In the past year, the fire department handled thousands of 911 calls. During that time, Firefighter Ryan \_\_\_\_\_ over 1,800.  
  
\_\_\_\_ A. received  
\_\_\_\_ B. recieved  
\_\_\_\_ C. receved  
\_\_\_\_ D. recievd
2. During an 8-hour shift, Dispatcher Jones's stats indicated that she made five personal phone \_\_\_\_\_.  
  
\_\_\_\_ A. call's  
\_\_\_\_ B. calls  
\_\_\_\_ C. calls'  
\_\_\_\_ D. None of the above are correct.
3. All firefighters really must have high regard for their own personal appearance because firefighters are public figures and are being observed by a perponderance of people during their shift. Which word in the above sentence is misspelled?  
  
\_\_\_\_ A. perponderance  
\_\_\_\_ B. observed  
\_\_\_\_ C. because  
\_\_\_\_ D. appearance
4. Officer Mike Berman and his partner Officer Steve Bush searched the suspect and found eight \_\_\_\_\_ in the suspect's back pocket.  
  
\_\_\_\_ A. knives  
\_\_\_\_ B. knives  
\_\_\_\_ C. knife  
\_\_\_\_ D. knife's
5. During \_\_\_\_\_ time in service, Engine 84 was an excellent fire service apparatus, and in fact, lasted for over 15 years.  
  
\_\_\_\_ A. its  
\_\_\_\_ B. it's  
\_\_\_\_ C. it'es  
\_\_\_\_ D. it

## Logical Sequence (Logical Reasoning) Skills

In the logical sequence skills portion of the exam, examinees will be provided with different series of letters, words, symbols, events, etc. This section tests examinee's ability to think logically and analytically. Examinees are required to assemble the data in a logical or meaningful order.

### Sample questions

1. Arrange the following words in a meaningful order:

1. Death 2. Marriage 3. Education 4. Birth 5. Funeral

- A. 5,1,2,3,4
- B. 4,2,3,1,5
- C. 4,3,2,5,1
- D. 4,3,2,1,5

2. Arrange the following words in a meaningful order:

1. House 2. Street 3. Room 4. County 5. City

- A. 3,2,1,4,5
- B. 3,1,4,2,5
- C. 3,1,2,4,5
- D. 3,1,2,5,4

3. What number should come next?

42, 40, 36, 30, 22, \_

- A. 8
- B. 16
- C. 10
- D. 12

4. What is the missing letter in this series?

Q P \_ N M

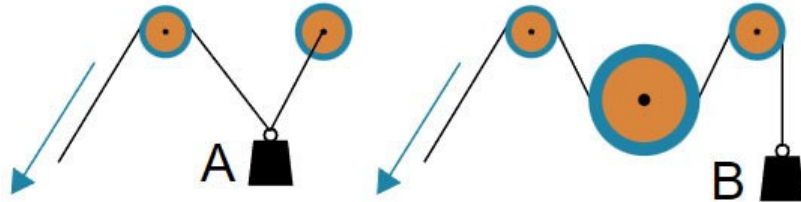
- A. Q
- B. O
- C. R
- D. S

## Mechanical Aptitude Questions

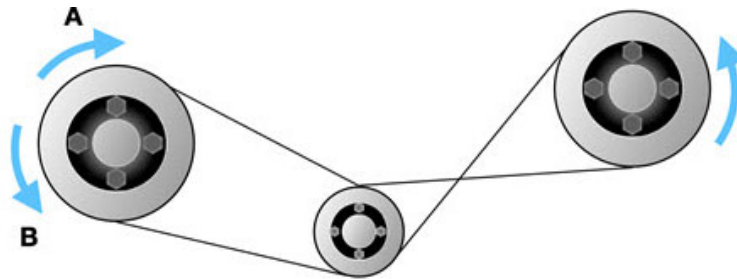
In the mechanical aptitude skills portion of the exam, examinees will be provided with different series of diagrams. Mechanical aptitude tests is a broad term for assessment tests evaluating mechanical understanding and mechanical knowledge.

### Sample questions

1. Which pulley system needs the least amount of effort to lift the black weight?



- A. Pulley system A  
 B. Pulley system B  
 C. Neither pulley system  
 D. Both pulley systems require equal amounts of effort.
2. Based off the pulley on the right side, which direction will the pulley on the left side rotate?



- A. Direction A  
 B. Direction B  
 C. Both Direction A and B  
 D. None of the above are correct.

## Entrance Exam Study Guide Answer Key

### **Math Skills**

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

### **Reading Comprehension Skills**

- #1 C
- #2 B
- #3 B
- #4 D
- #5 B
- #6 C

### **Language Skills**

- #1 A
- #2 B
- #3 A
- #4 B
- #5 A

### **Logical Sequence (Logical Reasoning) Skills**

- #1 D (First of all a person is born (birth), then takes an education, after is married, then dies (death), and then a funeral.)
- #2 D (Someone lives in a room, in a house, on a street, in a city, in a county)
- #3 D ( $42-2=40$ ;  $40-4=36$ ,  $36-6=30$ ,  $30-8=22$ ,  $22-10=12$ )
- #4 B (Reverse order of alphabet. M-N-O-P-Q in reverse)

### **Mechanical Aptitude**

- #1 A
- #2 A