

FIRE FIGHTER TRAINEE EXAMINATION STUDY GUIDE



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This Study Guide includes a message from the Fire Chief, and information about the Fire Fighter Trainee Examination. The Guide describes the various parts of the test, offers tips on how to prepare for and take the tests, and provides example and practice questions.

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The pages in this Study Guide are numbered 1 through 22. It is your responsibility to make sure you have a complete study guide.

DO NOT BRING THIS STUDY GUIDE TO THE WRITTEN TEST



Fire Chief Daryl L. Osby

Congratulations on your decision to apply for the Los Angeles County Fire Fighter Trainee examination!

While we anticipate this exam will be competitive, we commend and thank you for embarking on this exciting career opportunity.

The fire service is a proud and noble profession, and Los Angeles County firefighters enjoy an internationally renowned reputation for being the best. Each and every day, our firefighters play an integral role in meeting the Department's mission of being *"proud protectors of life, property, and the environment."* I am grateful to lead a team of compassionate, talented, and engaged firefighters who are committed to public service and the communities we serve.

Please take the time to read the helpful perspectives provided below by three of our current Department firefighters, along with the examination information that follows. I hope that you will be encouraged by this advice as you begin your journey towards a rewarding career as a Los Angeles County firefighter – a career that provides fulfillment, purpose, and excellence.

Perspectives from Los Angeles County Firefighters

Fire Fighter (FF) Alexis Miller, FF Christopher Piehl, and FF Timothy Gaffney are proud members of the Los Angeles County Fire Department. FF Miller has over two years of service with the Department and FFs Piehl and Gaffney each have over three years of service with the Department. FF Miller is currently assigned to the Emergency Medical Services Bureau, FF Piehl works out of Fire Station 29 in the City of Baldwin Park, and FF Gaffney works out of Fire Station 161 in the City of Hawthorne.

Here are their perspectives to the following questions.

What are the most important qualities for Los Angeles County firefighters?

FF Miller: The most important qualities for a Los Angeles County firefighter are our core values – integrity, teamwork, caring, courage, commitment, and community. I strive to live by these values both on and off the job.

FF Piehl: This career is more rewarding than one could imagine. However, it takes a lot of sacrifice. Determination, perseverance, integrity – more simply summed up as "grit".

FF Gaffney: I believe the most important qualities for Los Angeles County firefighters are integrity, honesty, hard work, and being a team player. These qualities are shown at stations where all the members get along and hang out with each other on their days off, and not just at work.

What can a candidate do to prepare for a career with the Los Angeles County Fire Department – physically, emotionally and mentally?

FF Miller: Physically, you can never be too prepared for this career. Put on a weight vest and do stairs along with high intensity interval training. Your workouts should continue well beyond the point of being tired. They should be short, intense, and to the point where you collapse. Emotionally, it's tough to prepare for this career. But having good support is important. There is a lot of stress that comes with this job, and having a healthy way to relieve that stress is crucial. For me, spending time with family and friends, exercise, music, and hiking really help. Mentally, knowing what this career entails is key. The best way to do that is talk with us. Visit fire stations and know what we do. Also, staying true to yourself and your motivation for choosing this career will keep you focused.

FF Piehl: Physically, hike up hills or run stairs with weights on, or move heavy things like sacks of concrete around your yard with weights on. When you feel like you have done enough, repeat it again. And, after you have completed another round, you realize that you have now completed what will seem like a warm-up in the academy. Emotionally, prepare yourself for the hard times. Visualize what it will feel like to fail an evolution in the academy or have a really hard day on-duty – and how you will use that emotion as motivation to get better. Prepare yourself for the missed holidays, birthdays, and special events with kids or loved ones; it will all be worth it, I promise! Mentally, mental fortitude is an absolute must in this career; you will give up without it. Resiliency is a trait that can be learned; focus on it, read about it, and understand what others have done to cultivate mental toughness in themselves.

FF Gaffney: Candidates should be very physically fit which includes strength training and cardiovascular training. Emotionally, candidates should be able to handle all types of situations and be willing to have adult conversations with other members of the Department without taking criticism personally. Candidates should mentally prepare by learning fire science basics, building construction, tools of the trade, general tools, geographic and street directions, and EMS to the standard of an EMT.

What do you like about being a member of the Los Angeles County Fire Department?

FF Miller: I have met some of the most inspirational people in my life working for this Department. Working around people like that brings out qualities in me that I didn't even know existed. There is a sense of camaraderie that I haven't found anywhere else. We are also a big Department, and that opens up a lot of opportunities. You can be part of our Urban Search and Rescue Task Force-2, our Air Operations Section, Haz Mat Program, Air and Wildland Division, or become a paramedic and promote through the ranks. The opportunities are endless.

FF Piehl: The Los Angeles County Fire Department is the best fire department in the world! What makes us the best is that we have the diversity in this County to work in the most dynamic fire and rescue environment in the world and with the best leaders in the business. It's motivating coming to work with that kind of culture.

FF Gaffney: I love coming into work and hanging out with competitive and hardworking people – drilling on fire-related topics and assisting the public with their emergency needs.

What do you like about the fire service?

FF Miller: I love being out in the community, working with my crew on whatever challenge is thrown our way. You never know what the day is going to bring you, and that's what makes being a firefighter demanding and exciting. I love that I have the opportunity, every single day I work, to help someone.

FF Piehl: The fire service is a career that provides 30+ years of ever-evolving mental challenges that are overcome by the hardest working individuals coming together for a common cause and using their knowledge, skills, and abilities to help people on what could be the worst day of their life. What could be more fulfilling?

FF Gatfney: The fire service is unlike any other profession. We provide emergency services to the public and also help inform people on safety and general knowledge on all types of topics. We are constantly learning about our profession and new technology, especially in building materials, vehicles, and EMS. This is an excellent profession for anyone who wants to work hard and work with good people.

2. Purpose of the Study Guide

This Study Guide is intended to assist you in preparing for the Los Angeles County Fire Fighter Trainee examination process. You should read the entire Guide to assist you in understanding what to expect during the process. No prior knowledge of technical firefighting information is necessary to take any portion of the test. There are two steps in the examination process for which applicants must be prepared. Each of these steps will be outlined in more detail in the pages that follow.

- Application
- Written Test

3. Application

All applicants must submit a complete application as stated in the posted job bulletin. Your application will be considered if you meet the selection requirements and attach all required documents as stated in the job bulletin.

4. Written Test

Upon acceptance of your application, you will be invited to take a written exam. The written exam consists of multiple portions that are administered in one sitting¹. It will occur in proctored test sessions supervised by County personnel.

Work Orientation: Description and Example Questions

This portion of the written assessment evaluates aspects of your approach to work-related situations and behaviors. Work Orientation includes attributes such as conscientiousness, managing work pressure, getting along with others, and trustworthiness.

During this portion of the assessment, select the answer that best describes you. Do not try to figure out which answer might be most desirable or expected. This is an assessment of your attitudes toward work. It is in your best interest to select the answer that most accurately reflects your views, to ensure that a career as a Fire Fighter is likely to be a good fit both for you and for the department.

	Aspects of Work Orientation		Related Fire Fighter Duties				
•	Managing Work Pressure	•	Maintains composure in difficult situations at the fire scene or rescue situation				
•	Conscientiousness	•	Stays on task and completes work, even when it is difficult or repetitive				

¹ The invitation letter will provide additional details on when and where candidates are to appear for the written exam. The information appearing in the invitation letter and the job bulletin will have final authority.

•	Getting Along with Others	•	Gets to know and serves people in the community
•	Trustworthiness	•	Protects the property and safety of others

Examples

Example 1:

I remain calm in tense situations.

- A. Strongly Disagree
- B. Disagree
- C. In Between
- D. Agree
- E. Strongly Agree

Example 2:

I prefer work that is routine.

- A. Strongly Disagree
- B. Disagree
- C. In Between
- D. Agree
- E. Strongly Agree

Example 3:

Everyone has times when it is difficult to get motivated for work. How often have you thought of simply not going to work?

- A. Never
- B. Once every few months
- C. Once a month
- D. Almost once a week
- E. Once a week or more

Example 4:

A co-worker, with whom you've worked for several years and become close friends, has a fight with a supervisor over the best way to do a job. You happen to agree with the co-worker. The supervisor responds by ordering the co-worker to do as told or find another job. The co-worker obeys, but intentionally works at a slow pace.

How likely would you be to defend the co-worker's actions?

- A. Very Unlikely
- B. Unlikely
- C. In Between
- D. Likely
- E. Very Likely

Abilities and Skills: Description, Example, & Practice Questions

This portion of the written test measures abilities and skills necessary to learn the job of a Fire Fighter. The following are brief descriptions and example/practice items of each section.

You will be presented with questions that have two or more answer choices, and you will need to choose the best answer for each question. If you are not sure of the answer, try to eliminate one or more choices as incorrect. Then provide your best answer.

This portion of the written test has four parts: Written Expression, Mechanical Comprehension, Report Interpretation, and Reading Comprehension. Sample test questions are provided for each part of this test. These questions are similar to those included in the actual test. Read the instructions, look at the examples, and answer the practice questions. Once you have completed all three sections, you may check your answers by referring to the answer key in the last several pages of this Study Guide.

Written Expression

Fire Fighters are required to interact with co-workers, superiors, and public service agencies, and assist fire and law enforcement investigators, often through writing. Performing office duties, writing reports and correspondence, and communicating, reporting, and documenting medical services provided is also required on the job. This portion of the written test measures the ability to recognize correct spelling, punctuation, capitalization, grammar, and usage.

Look at the example problem below. Part of the sentence is underlined. The underlined section may contain errors in spelling, punctuation, capitalization, grammar, or usage. Following the sentence are three suggested changes to replace the underlined section. If the underlined section contains no error, select the option "No Change". In the actual test, you will record your answers on your answer sheet by filling in the circle under the alternative (A, B, C, or D) you feel is the **best** response. In this study guide, write the letter which you feel is the **best** response next to the question number. Answer every question to the best of your ability. When finished, check your answers using the answer key at the back of this study guide.

Example

The team meeting will be held on <u>Tusday</u>.

- A. Teusday.
- B. Tuesday.
- C. Tuesdey.
- D. No change.

For this example, the correct answer is "B" which displays the correct spelling of the underlined word.

Practice Questions

- **1.** There is a need to be <u>insistent</u> when making policy decisions.
 - A. insistant
 - B. constant
 - C. consistent
 - D. No change.

- **2.** Mrs. Jones is the <u>most efficient</u> worker.
- A. efficientest
- B. mostly efficient
- C. efficiently
- D. No change.
- 3. Both of the <u>vehicle's will</u> need an oil change every three months.
 - A. vehicles will
 - B. vehicle'll
 - C. vehicle will
 - D. No change.
 - **4.** Mrs. Lewis would have left earlier but she was distracted by a phone call from her coworker.
 - A. would have left earlier but she was distracted,
 - B. would have left earlier, but she was distracted
 - C. would have left earlier; but she was distracted
 - D. No change.

Mechanical Comprehension

Fire Fighters need mechanical ability to perform many job behaviors, such as operating pumps, raising and securing ladders, and making hose connections. In this portion of the test you will be presented with drawings that illustrate mechanical principles that are relevant to the job of Fire Fighter. The Mechanical Comprehension questions address mechanical principles such as Resolution of Forces, Shape and Volume, Center of Gravity, Hydraulics, and the operation of Gears, Pulley Systems, Planes and Slopes, Levers, and Structures.

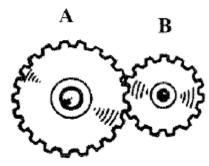
Aspects of Mechanical Comprehension	Related Fire Fighter Duties
 Knowledge of gear systems 	Operating equipment on the fire engine or other fire fighting apparatus
Understanding of force and leverage principles	 Making forcible entries into buildings and vehicles
Use of hydraulics	Operating hoses and directing the water stream to put out a fire

In each of the following questions, three possible answers are suggested. In the actual test, you will record your answers on your

answer sheet by filling in the circle under the alternative (A, B, or C) which you feel is the **best** response. In this study guide, write the letter which you feel is the **best** response next to the question number. Answer every question to the best of your ability.

<u>Example</u>

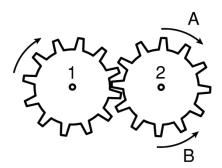
Which cog turns more slowly? If equal, mark C.



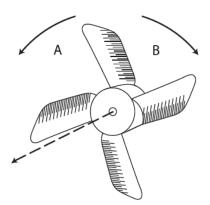
For this example, the correct answer is "A" because the larger the diameter of the cog, the longer it will take to complete a revolution. Therefore, cog A will turn more slowly.

Practice Questions

_____ **5.** If force is applied to Gear 1 in the direction shown, which way will Gear 2 rotate? If neither, mark C.



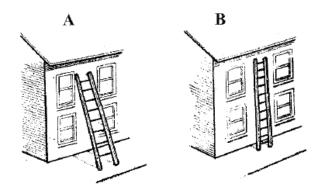
6. Which way must the fan turn to push air in the direction of the dashed-line arrow? If neither, mark C.



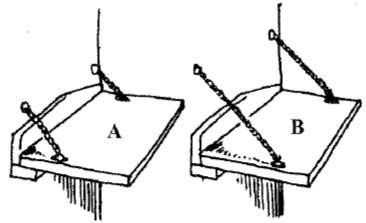
7. Which bridge will hold more weight? If equal, mark C.



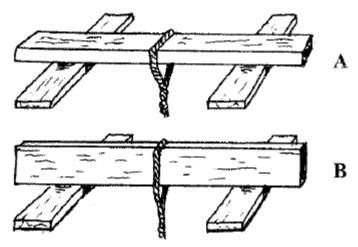
_____ 8. Which ladder is most likely to fall away from the building? If equal, mark C.



9. Which shelf is stronger? If equal, mark C.



10. In which picture can you safely put a heavier weight on the rope? If equal, mark C.



Report Interpretation

Fire Fighters must be able to read and interpret charts and tables when performing a number of important tasks such as adjusting settings on equipment, making emergency medical decisions, and understanding training and operations manuals. The questions in this part measure the ability to read charts and reports concerning fire department operations and to correctly interpret the information.

Aspect of Report Interpretation	Related Fire Fighter Duties				
 Reading and understanding charts and data 	Reading and interpreting numeric information, tables and charts from training manuals and other source materials.				

For each of the following questions, refer to the report and then decide which of the five suggested alternatives best answers the question. In the actual test, you will record your answers on your answer sheet by filling in the circle under the alternative (A, B, C, D, or E) which you feel is the **best** response. In this study guide, write the letter which you feel is the **best** response next to the question number. If you want to write out your calculations, do so in this study guide. Answer every question to the best of your ability.

Fire Department Report									
Company	Number of Trucks	Total Number of Calls Received	Total Number of Calls Dispatched	Number of Fire Calls Worked	Number of False Alarms				
A	3	101	90	60	12				
В	2	99	85	58	7				
С	5	412	274	198	22				
D	4	110	72	56	13				
E	7	623	428	212	109				
F	6	519	275	168	33				
G	4	228	102	69	18				

Example

Which company worked the least number of fire calls?

- A. Company A
- B. Company B
- C. Company D
- D. Company F
- E. Company G

For this example, the correct answer is "C" because Company D worked only 56 fire calls while all of the other companies worked more than 56 fire calls.

Practice Questions

11. Which company worked the greatest number of fires per truck?

- A. Company A
- B. Company B
- C. Company C
- D. Company E
- E. Company F

12. Which company dispatched the highest percentage of calls received?

- A. Company A
- B. Company B
- C. Company C
- D. Company D
- E. Company E

13. How many companies responded to more than 20 false alarms?

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

14. What is the average number of trucks for companies that dispatched more than 100 calls?

- A. 4.4
- B. 4.8
- C. 5.5
- D. 6.0
- E. 7.0

15. How many companies with more than the average number of trucks also had fewer than 30 false alarms?

- A. 0
- B. 1
- C. 2
- D. 3 E. 4
- ⊏. 4

16. How many companies had more than 10% of their calls received turn out to be false alarms?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4

Reading Comprehension

Fire Fighters must be able to read and understand written materials including instructions, directions, procedures, warnings, manuals, bulletins, and training materials. In this part you will read short passages of text and answer questions that assess your understanding of the contents.

The Reading Comprehension passages in this test are comparable in difficulty to actual training materials that entry-level Fire Fighters are required to read as part of their training.

	Aspect of Reading Comprehension	Related Fire Fighter Duties
•	Reading and understanding information from written passages	 Reading and understanding Fire Department procedure manuals and policy information
		 Reading and following procedures for the use and maintenance of Fire Fighter equipment
		 Following written directions as instructed by supervisors

In this section, you will be presented with a reading passage followed by several questions about the passage, along with four possible answers to each question. Read the passage, and then read each question and decide which answer is best. In the actual test, you will record your answers on your answer sheet by filling in the circle under the alternative (A, B, C, or D) you feel is the **best** response. In this study guide, write the letter which you feel is the **best** response next to the question number. Answer every question to the best of your ability.

<u>Example</u>

Reading Passage

Low-pressure hydrants can be classified as follows: "double" hydrants, which can supply two engines; "single" hydrants, which can supply only one engine; and "suction" hydrants, which are supplied from a static source.

E1. According to the passage above,

- A. a "single" hydrant is a high-pressure hydrant.
- B. a "suction" hydrant can supply two engines.
- C. a "single" hydrant can supply only one engine.
- D. a "double" hydrant is supplied from a static source.

For this example, the correct answer is "C" because the passage states that a "single" hydrant can supply only one engine. The remaining three alternatives are either false or not necessarily true from the information given in the passage.

E2. According to the passage above, which type of hydrant can supply two engines?

- A. a "suction" hydrant
- B. a high-pressure "double" hydrant
- C. a low-pressure "single" hydrant
- D. a low-pressure "double" hydrant

For this example, the correct answer is "D" because the passage states that a "double" hydrant can supply two engines, and the passage is about low-pressure hydrants. The remaining three alternatives are either false or not necessarily true from the information given in the passage.

Practice Questions

Reading Passage

The Dandyville Fire Department answered a call and went on site to a fire at a strip mall Monday evening. At around 6:15 p.m. passers-by called 9-1-1 to report seeing "bright red and orange flames" from one of the stores. After reaching the scene several minutes later, firefighters found that the front section of one store was involved in the fire.

The fire was quickly extinguished and the rest of the stores in the strip mall were not burned. The business renting the store's space was closed when the 9-1-1 call was made, and no one was injured as a result of the fire. The business owner's insurance company was scheduled to assess the damage and assist the store owner with finding a temporary location and replacing inventory.

The other store fronts in the strip mall are undamaged by either smoke or flames. This good news was due to the passers-by deciding to call the firefighters right away and alerting customers and employees in the nearby stores. Details of how the fire started are still being investigated, but it was confirmed that the fire originated from inside the store.

17. According to the Reading Passage, how many stores were involved in the fire?

- A. one store
- B. two stores
- C. three stores
- D. No stores. The passers-by were mistaken.

18. According to the Reading Passage, when did the firefighters arrive at the strip mall?

A. at around 6:15 p.m. B. at around 6:30 p.m. C. sometime after 6:15 p.m. D. before 6:15 p.m.

19. According to the Reading Passage, which of the following details is the LEAST likely to have contributed to the fire being extinguished quickly and with no reported injuries?

- A. The fire started inside the building.
- B. Passers-by called 911 quickly.
- C. Passers-by helped ensure the building was empty.
- D. The business was closed when the fire occurred.

20. According to the Reading Passage, the employees and customers of the store where the fire started were not injured because

A. they ran into the parking lot when the fire was discovered.

- B. they were in the back of the store away from the fire.
- C. the fire was quickly extinguished.
- D. the business was closed when the fire occurred.

21. According to the Reading Passage, aside from the business in the burned store, _____ will need help from the insurance company to find a new location.

- A. businesses in the adjacent units
- B. no other businesses in the strip mall
- C. businesses in every store in the strip mall
- D. businesses in the stores where passers-by said they saw "bright red and orange flames"

22. According to the Reading Passage, the passers-by helped avoid further damage and injuries by

- A. making sure the firefighters alerted employees and customers in other stores.
- B. protecting the other stores in the strip mall.
- C. calling the fire department quickly and alerting nearby stores.
- D. looking out for the business in the burned store.

5. Test Tips

This section lists a variety of things you may wish to do before taking the written test.

Preparation and Study

To help with your test preparation, consider doing some or all of the following:

- 1. Go to the County of Los Angeles test preparation website:
 - Go to <u>http://hr.lacounty.gov/</u>
 - > Then click on the **Find A Job** tab
 - > Then click on **Job Search Toolkit**.
 - Test Preparation Information is located under the Employment Test Assistance section
- 2. Review the Fire Department website for more information about the examination process.
 - Go to http://www.fire.lacounty.gov/
 - > Then click on **Our Services** link
 - Under Recruitment, click on Fire Fighter Trainee Exam Information.
- 3. Practice Taking Tests
 - Taking tests can be challenging, but the experience can provide you with an opportunity to demonstrate how prepared you are for the job. Become comfortable with the test-taking situation by finding practice tests online or in the library. The tests should involve reading information and answering multiple-choice questions. Time yourself and practice budgeting your time so that you can effectively manage your testing time.

Quick Test-Taking Tips

- As best as you can, clear your schedule well before the test date. During the exam session, you will be given instructions on how to complete your answer sheets.
- Get plenty of rest the night before the test.
- > Read the test instructions carefully and follow them.
- Before choosing an answer, read all of the answer choices.
- Be sure the answer you are marking on your answer sheet corresponds to the response option you are choosing.

6. Sample Test Answer Sheet

You will use answer sheets for the written exam to record your answers. During the exam session, you will be given instructions on how to complete your answer sheets.

When taking the test, be sure to check that you have marked your answer in the space on the answer sheet that corresponds to the test question. Because the answer sheet will be read by computer, it is important that you mark your answers clearly and completely erase any unintended or stray marks. A sample answer sheet is shown below.

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Abilities & Skills

Written Expression

- 1. The correct answer is C.
- 2. The correct answer is D.
- 3. The correct answer is A.
- 4. The correct answer is B.

Mechanical Comprehension

- 5. The correct answer is B. As gear 1 turns clockwise, it applies downward force to gear 2, causing it to turn counter-clockwise.
- 6. The correct answer is B. To push air in the direction of the dashed-line arrow, the fan blades must rotate clockwise. If the blades were to rotate counter-clockwise, they would push air in the opposite direction of the dashed-line arrow.
- 7. The correct answer is A. Bridge B has two separate truss structures (the triangular configurations of support beams), but no central support between them. Bridge B would be very weak at its center.
- 8. The correct answer is B. The ladder whose base is farther out from the building is more stable and less likely to tip.
- 9. The correct answer is B. Attaching the chain farther out on the shelf causes more of the shelf's weight to be supported by the chain.
- 10. The correct answer is B. A board set on its edge vertically is stronger than a board lying horizontally because it is distributing weight through a thicker and greater area and will therefore support more weight.

Report Interpretation

- 11. The correct answer is C. Dividing the number of fire calls worked by the number of trucks for each company yields the highest number for Company C.
- 12. The correct answer is A. Company A dispatched 90 of the 101 calls received; this percentage is higher than for the alternative companies.
- 13. The correct answer is C. There are three companies that worked more than twenty false alarms. These include Companies C, E, and F.
- The correct answer is C. There are four companies that dispatched more than 100 calls. Those include Companies C, E, F, and G. By adding up the number of trucks for those four

companies and dividing by four, the average number of trucks is 5.5.

- 15. The correct answer is B. The average number of trucks is found by adding up the total number of trucks for each company and dividing by seven (because there are seven companies). The average number of trucks works out to be 4.4. For the three companies that had more than the average number of trucks (Companies C, E, and F), Company C is the only one that had fewer than 30 false alarms.
- 16. The correct answer is D. For Companies A, D, and E, the number of false alarms is more than 10% of the total number of calls received. For example, for Company A, 10% of 101 calls received is 10. Company A had 12 false alarms.

Reading Comprehension

- 17. The correct answer is A. The passage states that passers-by reported seeing flames from "one of the stores", and then later references that the other stores in the strip mall were undamaged.
- The correct answer is C. Because the call was received at 6:15 p.m. and firefighters arrived "several minutes later", option C is the best response.
- 19. The correct answer is A. In the last paragraph of the passage, it is stated that passers-by quickly calling 9-1-1 and alerting nearby customers and employees was an important factor in the other stores remaining undamaged; this statement rules out options B and C. Option D is also likely to be a critical factor to the firefighters having quick access to the fire and no injuries being reported, since there were no customers or employees inside the store at the time of the fire. Therefore, option A is the *least* likely to have contributed to the fire being extinguished quickly and with no reported injuries.
- 20. The correct answer is D. Because the business was closed when the fire occurred, the employees and the customers were not present inside the store when the fire started.
- 21. The correct answer is B. There were no other businesses in the strip mall that sustained damage from the fire besides the store from which the fire originated, so there are no other businesses that will require insurance assistance to find a new location due to damage from the fire.
- 22. The correct answer is C. The passage states that passers-by called the fire department quickly and alerted nearby stores, which contributed to the lack of reported injuries from the fire.

THE COUNTY OF LOS ANGELES WISHES YOU SUCCESS IN ACHIEVING YOUR CAREER GOALS!

