

# **FIREFIGHTER WRITTEN TEST INFORMATION**

The Firefighter written test is administered monthly. Please look at the Selection Process Timeline for upcoming dates. You cannot be scheduled for the written test until you have completed the on-line Preliminary Background Application (PBA), on-line Application for Firefighter and submitted your proof of CPAT.

The written test is made up of two test parts, Parts 1 and 2. Only when passing Part 1 will Part 2 be scored. A passing score in both test parts is valid indefinitely. If candidates fail Part 1 or 2 of the written test, they may take the entire written test again two years from their last written test date.

## **WHAT IS THE TEST ABOUT?**

Part 1 of the test measures mathematics such as addition, subtraction, multiplication, division, ratios, square roots, and the use of decimals, fractions, and percentages. Part 1 also measures reading comprehension.

Part 2 measures job-related personal characteristics that have been demonstrated to be indicators of success as a firefighter.

## **CAN YOU STUDY FOR IT?**

The test is not intended to be one you have to study for. Part 1 is based on a high school education. We strongly urge:

\*When you read, concentrate on what you are reading. Try to understand its full meaning and implications.

\*Read articles or books on practical subjects. Exactly what you read is not nearly as important as how well you use it to sharpen your reading skills. So choose a subject that interests you.

\*After reading a paragraph or section, put it aside and test yourself on it. Ask such questions as: How can I state the main idea using different words? Why is the statement true? How could I make practical use of this information?

\*Review and practice mathematical computations and applications.

You cannot study for Part 2. To prepare for this part of the test, review your personal experiences, attitudes and interests. The best thing to do on this part of the test is to answer the questions honestly. Any attempts to "fake" the right answers may work to your disadvantage. Also, do not attempt to answer the questions the way you think a Firefighter would or in a way that you think is more appropriate for a Firefighter. Again, the best advice we can give you is to answer these questions honestly.

## QUESTION FORMAT

Questions in the Firefighter written test may be either multiple-choice or true/false. This means that each question gives you a set of answers from which to choose. You are to choose the one answer that is the best one, the one most nearly or most often correct, or the one usually true for you. Here is an example. It makes a very important point, so pay special attention to it.

The number of days in a year is

- A. 365
- B. 366
- C. 367
- D. 368

The answer you should choose is choice A, because it is the one which is most often correct. Choice B is true for leap years, but most years have 365 days. Therefore, choice A is the best answer.

## STRATEGIES FOR ANSWERING QUESTIONS

1. Read the entire question carefully.

Be sure that you know what the question asks, and what the choices say. On every test, people choose wrong answers simply because they failed to read the question or answers carefully, or because they chose an answer before reading all answers.

2. Choose the answer that is GENERALLY best.

Answer according to what is generally or usually true, not by what would be true in some particular case. Remember the question about the number of days in a year. The right answer was the one that was true for most years, not the one that was true for leap years. To keep the questions short, they cannot go into a lot of detail. Sometimes there is no answer that is complete, or exactly correct, or always correct. The best answer is the one that is right, under ordinary conditions.

For example, look at this question:

In reading this information, it is most important that a person \_\_\_\_\_.

- A. read it more than once
- B. understand what is read
- C. read slowly

Some people will read this information slowly, and some people may benefit from reading it more than once. However, what is most important is that a person understands what he or she reads. Therefore, choice B is the right answer.

### 3. Use your time efficiently.

The Firefighter written test is not a speed test, but it does not give you unlimited time, either.

\*Read at your normal speed. Don't slow down just because you are taking a test.

\*Eliminate choices you know are wrong. When you have trouble deciding on the best answer but have decided one or two answers are definitely not best, avoid further consideration of those, and concentrate on the answers you think might be correct.

\*Move right along so that you finish the test and have time to go back and do more work on the questions that need it. Numbers 4 and 5 (below) will give you a good plan for handling questions that are hard for you, helping you not to get bogged down elsewhere on the test.

### 4. Make decisions. When you first read a question, decide SOMETHING about it. Your decision should be one of the following:

- a. You may decide you know the answer. You have little or no doubt about it. Mark your answer on the answer sheet. Spend no more time on that question.
- b. You may decide that figuring out the answer is possible, but will take you a lot of time. Don't mark down an answer. Simply skip the question for now and come back to it later. (In answering the next question, make sure you are at the right place on your answer sheet).
- c. You may decide you don't know the answer and that all you will ever be able to do is make a guess. Make the guess. Mark the answer sheet to show your guess. Don't waste any more time on that question. There is no penalty for guessing and sometimes you will guess correctly. If you can narrow down your guessing to the two or three most likely answers, you can increase your chance of guessing correctly.

### 5. Don't give up.

Many people give up too easily on test questions. If the question looks hard, they don't even try. Here are some of the kinds of questions people give up on that they could have answered if they just tried harder:

- a. Mathematical questions may appear difficult because of the symbols or letters used, but remember, they all test for these basic operations: addition, subtraction, multiplication, division, ratios, squares and square roots, the use and conversion of decimals, fractions and percentages.

- b. Questions testing your ability to read, understand and use what you have read. Sometimes people give up on a question because it looks technical, when all the information needed to answer it is right there in front of them! Sometimes the reading material looks long and complicated. Look for the main idea. Look for the specific information you need to answer the question. Make reasonable inferences.
- c. The personal characteristics questions will be very difficult if you try to figure out the “right” answer, but they will be very easy if you simply answer honestly. In a test like the one for Firefighter, some questions are easy and some are hard. Probably no one will make a perfect score. If it is hard for you to figure out an answer, it is probably hard for other people too. Keep your mind on the test and try!

6. Don't change answers too much.

When people change answers, they more often change from a right answer to a wrong one, than from a wrong answer to a right one. The reason seems to be that people concentrate on a special case. This results in choosing the answer on the basis of facts that are not given in the question. Or people concentrate on one part of a question and forget about the rest of the question. Remember, the best answer is the one that is usually or generally right.

7. Be well rested. Get a good night's sleep before the test. Allow plenty of time to get to the test site. Plan to get there early.

## **FOR REVIEW**

Take the short quiz below on what you have learned about taking the Firefighter written test. See if you can answer all three questions correctly, without looking back at any prior material.

1. The Firefighter written test may include questions to test your ability to:
  - A. give first aid
  - B. develop fire fighting strategy
  - C. solve arithmetic problems
  - D. do all of the above
2. The best way to prepare for the test is:
  - A. study the Fire Code
  - B. do nothing, because you already either have or don't have the required abilities
  - C. learn many facts about science
  - D. sharpen your skills in reading

3. All except one of the ideas stated below have been described above as good ideas. Which one is the exception?

A. stay up late studying the night before the test

B. when you finish reading a question carefully the first time, make some decision about it

C. if you absolutely cannot figure out which answer to a question is best, make a good guess and mark it on your answer sheet

D. if you decide to skip a question for the time being and come back to it later, be careful to answer the next question at the right place on the answer sheet

### **CHECK YOUR ANSWERS:**

1. – C

2. – D

3. – A

If you missed any of the answers, review all the material presented thus far. When you can answer all the questions correctly, go on to the next section.

## FIREFIGHTER SAMPLE TEST QUESTIONS

Below is a sample of Part 1 of the Firefighter written test. There are 36 questions covering mathematics and reading comprehension. The actual test will contain 80 questions. At the end of the test is the answer key.

**Mathematics** – Perform the computations indicated, and select the answer that most closely corresponds to your answer. Calculators are not allowed at the test; so do not use them when taking this sample test.

1.           63.896  
              414.4  
             1039.24  
          + 2572.531

is equal to

- A. 4088.607
- B. 4089.069
- C. 4090.067
- D. 4090.607

2. \$78.58, minus \$64.30, plus \$148.96, minus \$3.88, minus \$33.33, plus \$1.99 is equal to

- A. \$108.20
- B. \$118.22
- C. \$123.12
- D. \$128.02

3.       2 1/3  
         3 2/3  
         + 4 6/9

is equal to

- A. 9.33
- B. 10.00
- C. 10.50
- D. 10.67

4. 
$$\begin{array}{r} 1 \\ - 0.0347 \\ \hline \end{array}$$

is equal to

- A. 0.9563
- B. 0.9653
- C. 1.0347
- D. 1.9653

5. 
$$\begin{array}{r} 21,590 \\ - 14,873 \\ \hline \end{array}$$

is equal to

- A. 6,177
- B. 6,717
- C. 6,723
- D. 7,617

6. A fire station has 57 fire inspections to make at various businesses. If they complete 9 the first day, 6 the second day, 12 the third day and 4 the fourth day, how many businesses remain to be inspected?

- A. 16
- B. 22
- C. 26
- D. 30

7. 22% of 840 is equal to

- A. 18.48
- B. 148.8
- C. 184.8
- D. 1848

8. 
$$\begin{array}{r} 285 \\ \times 34 \\ \hline \end{array}$$

is equal to

- A. 9669
- B. 9690
- C. 9696
- D. 9960

9.  $21,684 \div 6$

is equal to

- A. 3416
- B. 3614
- C. 3616
- D. 3816

10.  $1/5$  divided by  $3/5$  is equal to

- A.  $1/4$
- B.  $1/3$
- C.  $1/2$
- D.  $4/5$

11. The decimal equivalent of  $1/5$  is

- A. .02
- B. .2
- C. .25
- D. .5



12. A fraction of  $\frac{2}{3}$  is most nearly equal to what decimal?
- A. .23
  - B. .33
  - C. .67
  - D. .80
13.  $(2 \times \text{the square root of } 49) + \text{the square root of } 9 =$
- A. 17
  - B. 31
  - C. 107
  - D. 179
14.  $(3^3) + (4^2)$  is
- A. 17
  - B. 25
  - C. 35
  - D. 43
15. A ten-gallon drum is full of oil. How many pints of oil are there in it?
- A. 20
  - B. 40
  - C. 80
  - D. 100
16. Which water-to-cleaner ratio will yield the weakest solution?
- A. 8:1
  - B. 5:1
  - C. 2:1
  - D. 1:1

17. How many 6-inch sections can be cut from a 261 inch length of aluminum?
- A. 43
  - B. 44
  - C. 45
  - D. 46
18. If a drawing is made to a scale of 1 inch = 20 feet, then a line representing 135 feet on the drawing should be
- A. 6.07 inches
  - B. 6.75 inches
  - C. 6.80 inches
  - D. 6.86 inches
19.  $87 \frac{1}{3}$  yards expressed in feet and inches is equal to
- A. 260 feet, 10 inches
  - B. 260 feet, 11 inches
  - C. 261 feet, 9 inches
  - D. 262 feet, 0 inches
20. How many fluid ounces equal one pint?
- A. 4
  - B. 8
  - C. 16
  - D. 32

**\*Reading Comprehension** – Read each passage, then answer the questions, which follow, based on your understanding of the passage.

Arson as a crime pre-dates the written history of common law. In England during the eleventh century, arson was recognized as a crime and was punishable by death. In the time of Henry II, a person convicted of arson suffered the loss of one hand and one foot and was made to leave the community. Under the old common law, the crime of arson was well defined as the “malicious and willful burning of the house or outhouse of another man.” Since that time many statutes have changed this definition so that its former scope is interesting only in a historical sense. Arson was originally confined to dwellings and nearby buildings. It is now extended to all manner of structures. Where it formerly pertained only to the habitation of a man, it now covers property. Once it was limited to burning the house of another; now one may be convicted if he burns his own property. Arson has always been regarded by the law as a heinous and most aggravated offense. It endangers human life and the security of habitations. It evidences a moral recklessness and depravity in the perpetrator.

21. According to the passage, arson was the first crime recognized by English common law.
  - A. True
  - B. False
  
22. According to the passage, which of the following statements is correct regarding the history of arson?
  - A. arson once pertained only to burning habitations
  - B. arson was once an acceptable act
  - C. common law definition of arson remains valid today
  - D. arson poses no threat to human life

Inhalation of smoke, superheated air, and toxic gases and vapors accounts for more injury and death to firefighters than all other hazards. The professional firefighter is trained in many skills. A firefighter spends hundreds of hours learning the most effective methods of directing hose streams, walking with ladders, and developing many other skills too numerous to mention. He or she may become expert in any one or a number of these skills. But if a firefighter is unable to advance into a burning structure and hold position because of smoke conditions, all of this knowledge and skill is wasted. It is therefore essential that all firefighters be thoroughly trained in the proper use, maintenance, and limitations of protective breathing apparatus and be ready to use this equipment at every fire.

23. According to the passage, fire fighting knowledge is wasted if the firefighter
- A. does not spend hundreds of hours in training.
  - B. cannot walk with a ladder.
  - C. cannot maintain their position at a fire scene due to smoke.
  - D. is not considered a professional firefighter.
24. According to the passage, firefighters should be trained in the
- A. storage, maintenance and recharge of breathing apparatus.
  - B. use, limitations and maintenance of breathing apparatus.
  - C. manipulation, limitations and propensities of breathing apparatus.
  - D. construction, use and development of breathing apparatus.

At a hazardous materials incident, personnel may enter the “hot zone” where contamination is likely to occur, for several reasons, including the need for sampling the material, cleanup, or spill control measures. The boundary lines for the hot zone should be clearly delineated by hazard tape, signs, or rope. It may be appropriate to have more than one access control point per zone so that there are separate entrance and exit points. All personnel within the hot zone should wear the level of protective equipment the incident commander has determined to be appropriate. Differing levels of protection may be appropriate in the same area, depending on the specific task being performed.

25. Who determines the level of protective equipment needed at a particular incident?
- A. the firefighter
  - B. the fire captain
  - C. the incident inspector
  - D. the incident commander
26. As described in the passage, personnel in a hot zone may wear different levels of protection because of their
- A. experience at hazardous materials incidents.
  - B. level of contamination in their assigned areas.
  - C. job assignment.
  - D. resistance to negative effects of materials.
27. What is a possible consequence of entering a hot zone?
- A. thermal exposure
  - B. contamination
  - C. overheating
  - D. infestation
28. Which of the following is a reason listed for entering a hot zone?
- A. reconnoitering
  - B. material dispersion
  - C. preventing exposure
  - D. controlling the spill

The Iroquois Theater fire in Chicago, one of the most devastating public assembly fires in history, occurred in 1903 during a Saturday matinee of a new play, Mr. Blackbeard. The Iroquois was Chicago's newest theater and was also considered its safest. There were 2,000 people present for this performance. Arc lamps were used in the theater. A light set a curtain on fire, and flames and smoke rapidly made the structure untenable. Despite heroic efforts, panic ensued, and human logjams developed at each of the doors. No fire extinguishers were provided. The curtains were combustible, and exits were improperly marked. No venting was provided for the stage area; so there was no means of immediately removing hot gases and smoke. This tragic fire took 603 lives and gave a great deal of impetus to the fire prevention movement, especially in the area of public assembly occupancies.

29. According to the passage, what caused the Iroquois Theater to become untenable?
- A. the heroic efforts of those present
  - B. smoke and flames
  - C. the 2,000 people present
  - D. the conception of the safety of the theater
30. What was one positive result of the Iroquois Theater fire?
- A. incentive for increasing safety in public assembly structures
  - B. improved ventilation for stage areas
  - C. recognition of the safety of arc lamps
  - D. installation of fire retardant curtains
31. Which of the following did NOT contribute to the tragedy?
- A. the panic of the people
  - B. poor marking of exits
  - C. lack of fire extinguishers
  - D. the time of the performance

The firefighter's carry is useful for quickly moving a person from a dangerous situation such as a fire. The advantage of this carry is that it leaves one of your hands free while you move the victim. This method can be used with both conscious and unconscious victims. The disadvantages are that you may need help to position the victim across your shoulders, and that the technique is not appropriate for victims of major trauma. It should not be used for a victim with suspected head, spine or abdominal injury, since the victim's body is twisted, the head is not supported, and the victim's abdomen bears the weight.

32. The firefighter's carry involves draping a victim over your shoulder(s). One disadvantage of this method is
- A. it may only be used at fire scenes.
  - B. the firefighter's hands are fully occupied.
  - C. a firefighter may require help to position the victim.
  - D. it is a slow method for moving a victim.
33. Which of the following victims should NOT be moved using a firefighter's carry?
- A. an unconscious woman with a broken wrist
  - B. an unconscious man with a spinal injury
  - C. a conscious woman with minor burns, abrasions and bruising
  - D. a conscious man with a shallow puncture wound to the hip

The nervous system is the most complex and delicate of all body systems. The brain, the center of the nervous system, is the master organ of the body. It regulates all body functions, including the respiratory and circulatory systems. The primary functions of the brain can be divided into three categories. These are the sensory, motor and integrated functions of consciousness, memory, emotions, and use of language. The brain transmits and receives information through a network of nerves. The spinal cord, a large bundle of nerves, extends from the brain through a canal in the spine, or backbone. Nerves extend from the brain and spinal cord to every part of the body. Nerves transmit information as electrical impulses from one area of the body to another. Some nerves conduct impulses from the body to the brain. This allows you to see, hear, smell, taste, and touch. These are the sensory functions. Other nerves conduct impulses from the brain to the muscles to control the motor functions, or movement. The integrated functions are more complex and involve such concepts as consciousness and self-realization.

34. As described in the passage, which of the following is an example of a motor function?
- A. scratching
  - B. breathing
  - C. dreaming
  - D. hearing
35. The spinal cord
- A. runs parallel to the spine
  - B. is the same thing as the spine
  - C. is the only means by which nerves are extended to all parts of the body
  - D. extends through a canal in the spine
36. According to the passage, information is transmitted through nerves as
- A. chemical reactions
  - B. electrical impulses
  - C. biomechanical interactions
  - D. motor functions



1. C	7. C	13. A	19. D	25. D	31. D
2. D	8. B	14. D	20. C	26. C	32. C
3. D	9. B	15. C	21. B	27. B	33. B
4. B	10. B	16. A	22. A	28. D	34. A
5. B	11. B	17. A	23. C	29. B	35. D
6. C	12. C	18. B	24. B	30. A	36. B