The following paragraphs will tell you more about the English and mathematics sections.

**The Essay.** You will be given 20 minutes to write an essay on an assigned topic. In general, your essay will be scored on how well you phrase your ideas and organize them, and whether you use specific examples to support your ideas. You are expected to follow the conventions of standard written English.

**Reading Comprehension.** 35 minutes, 32 questions. This section of the test measures how well you understand what you read. The questions will be based on information contained in the passages.

**Sentence Sense.** 30 minutes, 30 questions. This section of the test measures how much you know about the way parts of a sentence fit together and about the ways to make the meaning of a sentence clear.

**Computation.** 30 minutes, 25 questions. This section of the test measures your ability to perform basic arithmetic operations and to solve problems that involve fundamental arithmetic concepts without the use of a calculator. The topics include whole numbers, fractions, decimals, percentages, and applications using arithmetic.

**Elementary Algebra.** 30 minutes, 25 questions. This section of the test measures your ability to perform basic algebraic operations and to solve problems that involve elementary algebraic concepts without the use of a calculator. The topics include operations with real numbers, polynomials, algebraic fractions and square root expressions; the use of the rules of exponents; factoring; solving equations, inequalities, and systems of equations; graphs of linear equations; and solving word problems.

**Precalculus.** 60 minutes, 35 questions. This section of the test covers intermediate algebra, functions, exponents, logarithms, and trigonometry. No calculators.

Many different kinds of multiple-choice questions are used in the tests. A sample of these questions and of an essay topic follows. The answers appear at the end.

**THE ESSAY**

You will have 20 minutes to plan and write an essay on a topic like the one that follows. Read the topic carefully before you begin writing. This essay is assigned to give you an opportunity to show how well you can write. You should, therefore, take care to express your thoughts on the topic clearly and effectively. **How well you write is much more important than how much you write.** but to cover the topic adequately you may want to write more than one paragraph. Be specific. You may want to write an essay on this sample topic for practice.

Young people often want the power and privileges of older people, whereas older people often feel that childhood and youth are the happiest times of life. **Explain some of the advantages or disadvantages of being the age that you are now. Be specific.**

**SAMPLE ESSAY RESPONSES**

**Good Response:**
As a young woman of eighteen, I feel very fortunate to be young enough to enjoy the benefits of my youth and old enough to be wise in my decisions. Being young allows me to be more carefree than my parents because I have fewer responsibilities weighing my life down. I am old enough to choose my own friends and recreations, and I have a driver's license to permit me additional freedom. My parents trust my decisions as mature and responsible, which is very supportive. I am recognized by them as an adult, whereas my younger sister is slightly more restricted. I have also experienced the privilege of voting in a local election, which fulfills a sense of duty for me. My friends feel comfortable having someone to depend on, a responsibility I could not have held up to as well at fourteen. This expansion of my life experiences due to my age status is preparing me for my future by making me a more rounded person.

Being eighteen has its drawbacks. I am not allowed to buy alcohol in the state of New Jersey. This is not a major defeat, but to function in the social circles of adult life, one must socially drink. Because I am still a student, my age is overruled by my educational status. My parents, however supportive, still view me as a child in some respects because I still live in their house. I have not had the full responsibilities of an adult as yet, and the changes seem slow in coming.

In contrast to this, the life of a child of eight or nine sometimes seems much easier. It is sometimes difficult not to be enviable of their carefree lives. I feel that being eighteen is a rich experience, in view of all of its
advantages and disadvantages.

This 20-minute writing sample is a good first draft. Despite the errors in diction and spelling, the writer obviously has control of the language: the ideas are generally clearly stated; they are organized; they are pertinent. The sentence structure has some variety. The errors in spelling are not frequent. The writer's major weakness is in the inexact use of words. Even so, the total piece of writing is strong enough to justify a good rating.

Mediocre Response:
The advantages of being eighteen are numerous. First of all, it is a time when you are no longer considered a child. The majority of eighteen year olders are heading off to college. This is a new beginning because no longer will people do things for you. Now you must do it for yourself.

New ideas are developed by oneself the emergence of self-discipline and being independant are very important.

One of the best advantages is being on your own and doing what you want to do. This includes good studying habits, staying in shape and enjoying the night life.

I find that the disadvantages are very few. The best one is leaving all your high-school friends behind. The same people you go along with for four years.

Another disadvantage is unavailability of a full-time summer job. this would help cut the high cost of college tremendously.

Finally the lack of respect for not living up to your fullest expectations such as top honors in high school and all-country in basketball.

In closing I would like to say that being eighteen is the greatest time of life.

This sample is somewhat weaker. Some sentences are complete, indicating control of sentence structure, while others are fragments. There is some organization to the ideas, but that organization is not consistent. Some of the statements are clear; some are murky. The sentences are not very sophisticated in structure, but neither are they invariably simple. The writing is definitely in the middle range.

Weak Response:
If your in a family with older sisters and brothers you will learn. The older kids get more privlege, to go out later, and not many questions asked of where they were. Young people have to be in earlier and account for everywhere they have been, Older people think childhood is better because they don't have the worries or expences as an adult which in turn makes their life happier. At the age I am at now responsibility is greater than ever. Every step I take builds up my tomorrow. And every move I make counts either against it or for it. But now my time to make mistakes and learn how to improve them tomorrow.

This writing sample is definitely weak. The sample lacks organization; not even a topic sentence appears. The writer's difficulties with sentence structure, for example, make some of the ideas hard for the reader to comprehend on first reading. Even though the writer does have ideas and those ideas are all relevant to the topic, the writing is weak and the sample deserves a low score.

READING COMPREHENSION

Directions: For each of the questions in this section, you are to select from the four suggested answers the one that is best and fill in the corresponding oval on your answer sheet.

Questions will test how well you understand certain passages. Answer these questions on the basis of what is stated or implied in the passage.

After the following passage, there are sample questions followed by explanations of the best answers.

Questions 1-4

1There is a great deal of communication between Chinese teachers and parents, especially when the younger children move into new school settings. 2Some communication takes place informally when parents walk young children to the school or pick them up, but there are a number of other more formal modes of communication, usually initiated by the schools. 3These include meetings for parents, most often held early in the school year or at the end of the year, visits from teachers to the homes of the students, and small notebooks that pass back and forth between school and home, referred to as "communication books" or "connection notebooks.” 4The exchange between school and home
in China, apparently so much more fluid and continuous than that in the United States, may be the result of the more stable and tighter organization of Chinese neighborhoods. Schools generally seem to be less isolated from homes in China than they are in the West.

1. The main idea in this passage is that
(A) schools in China are better organized than are schools in the United States
(B) communication between teachers and parents in the United States is poor
(C) Chinese parents and teachers communicate frequently with each other
(D) communication between parents and teachers eliminates certain problems in China's schools

The first sentence of the paragraph indicates what the paragraph is about, and the idea of that first sentence is contained in choice (C). Organization of schools and problems in the schools are not mentioned in the paragraph, and (B) may be implied in the passage but it is not the main idea. Students who did not answer this question correctly were clearly not reading the passage carefully.

2. According to this passage, most informal communication between Chinese parents and teachers occurs
(A) at the beginning and end of a young child's school day
(B) when a child is doing well enough to be promoted
(C) when parents voluntarily come to the school to inquire about the child's progress
(D) when parents request that the teacher visit them at home

The answer to this question is contained in the second sentence of the paragraph. Choice (A) restates the information provided there.

3. The author suggests that the school-family connection in China is
(A) similar in most aspects to what it is in the United States
(B) supported by neighborhood organizations
(C) stronger than it is in the United States
(D) usually controlled by the parents

The inference is based on the last two sentences. To arrive at (C) the student needs to understand the implications of "more fluid and continuous" and "less isolated from."

4. What is the function of sentence 5 in the passage?
(A) It clarifies and concludes ideas presented in sentence 4.
(B) It introduces an implied comparison.
(C) It provides an exception to a point made in sentence 4.
(D) It introduces a new idea.

Sentence 5 continues the comparison between parent-teacher communication in China and parent-teacher communication in the United States, restating the comparison directly and briefly. Sentence 5 therefore functions in relation to sentence 4 as described in choice (A).

The following passage is followed by sample questions without explanations.

Questions 5-7

In at least one sense, the years had been kind to Rachel Isum Robinson, the wife of the first Black baseball player to be a member of a major league team. She remained a handsome woman, with soft, unlined skin. Escorting my wife and me into her living room, she walked with elegance and there was a warmth to her manner, and the two, elegance and warmth, blended into graciousness. "Won't you sit down?" On one side of the spacious room, a window wall overlooked a bright lawn and water. Opposite, gray stone arched above the fireplace, no visible mortar interrupted the flow of stone. "The builder," Rachel said, "was marvelous. He meant this place to be a monument; of course, we have never been sure whether for us or for him."

She climbed two carpeted stairs into a dining alcove and returned with refreshments. Only then did we start to talk. "One thing about my background in California was that I was brought up to be as ladylike as possible. I was taught not to be aggressive. And then, marrying Jack, I was in the middle of a struggle where--well, without aggressive behavior, it would have failed. There was an aggressiveness to Jack's whole career in baseball. It was a kind of objection to the White society."
"A very mild objection." Treading softly, Jackie Robinson had entered his living room. "Go on, go on," he said quietly.

5. The main purpose of the passage is to
   (A) suggest the close relationship between the Robinsons
   (B) suggest Rachel Robinson's character
   (C) analyze Rachel Robinson's motives
   (D) analyze the effects of the Robinsons' struggle

6. The first sentence suggests that Rachel Robinson
   (A) works hard to forget the past
   (B) dislikes intrusion into her life
   (C) has not led a carefree life
   (D) works hard to control her emotions

7. The author's attitude toward Rachel Robinson is one of
   (A) grudging respect
   (B) reserved judgment
   (C) admiration
   (D) neutrality

**SENTEENCE SENSE**

The Sentence Sense section uses two kinds of multiple-choice questions. The first requires the students to identify faults in sentences and make appropriate corrections. The second asks students to rewrite sentences, much as they would do when editing their own writing. The problems presented to the student for correction are concerned mainly with the structure and logic of sentences, not with problems of subject-verb agreement and the like. Questions deal with expressing ideas clearly and accurately, appropriately coordinating or subordinating ideas within sentences, and recognizing complete sentences. The types of questions used ask students either to identify and correct problems in sentences or to recast sentences to change structure or emphasis--tasks they might perform when they write themselves.

Examples of the types of multiple-choice questions used in the Sentence Sense section follow.

Select the best version of the underlined part of the sentence. Choice (A) is the same as the original sentence. If you think the original sentence is best, choose answer (A).

1. The record is held by Andrea, it is in the hundred-yard dash.
   (A) The record is held by Andrea, it is in the hundred-yard dash.
   (B) Andrea holds the record in the hundred-yard dash.
   (C) The record in the hundred-yard dash being held by Andrea.
   (D) The hundred-yard dash record, which is held by Andrea.

This question asks the student to recognize first that the original sentence neither fits the traditional definition of a complete sentence nor presents the ideas in it in an appropriate way. Choice (B), which is the correct response, eliminates the comma fault and conveys the required information briefly and clearly.

2. Jenny's Cinderella costume was more elaborate than Henry, who wore a ghost costume.
   (A) Henry, who wore a ghost costume.
   (B) Henry in a ghost costume.
   (C) Henry's ghost costume.
   (D) Henry's who wore a ghost costume.

This question presents a problem in logic in that the original sentence compares a costume to a person. The sense of the sentence requires that two costumes be compared. Choice (C) is the only one that provides that comparison.

In the following questions, you are going to be asked to rewrite sentences in your head. You will be told exactly how to begin your new sentence. Keep in mind that your new sentence should be well written and should have the same meaning as the sentence given you.

3. George saw no familiar faces when he looked around the room.
   Rewrite, beginning with
   Looking around the room, . . .
The next words will be
(A) George saw no familiar faces
(B) no familiar faces could be seen
(C) and seeing no familiar faces
(D) then George saw no familiar faces

To answer this question, the student must remember that George is looking around the room and that, therefore, George must be the word to follow the comma in the new sentence. Only by using George can the student avoid creating a sentence that has a dangling modifier.

4. If she had not agreed to work late this evening, she would be able to go shopping for Eleanor's birthday present.

Rewrite, beginning with

She cannot go shopping for Eleanor's birthday present . . .

The next words will be
(A) since her agreement
(B) even though she agreed
(C) without first agreeing
(D) because she has agreed

The sense of the original sentence is kept only when (D) is used to form the new sentence: She cannot go shopping for Eleanor's birthday present because she has agreed to work late this evening.

COMPUTATION

Directions: Solve each problem and indicate your answer choice in the corresponding oval. You may use blank paper for scratch work, but no calculators.

1. Of the following which is closest to: \( \sqrt{4,000} \)
   (A) 40  (B) 60  (C) 200  (D) 2000

2. Which of the following is greatest?
   (A) \( \frac{2}{8} \)  (B) \( \frac{5}{12} \)  (C) \( \frac{1}{2} \)  (D) \( \frac{3}{8} \)

3. \( \frac{3}{4} - \frac{1}{2} + \frac{2}{5} = \)
   (A) \( \frac{3}{20} \)  (B) \( \frac{4}{11} \)  (C) \( \frac{4}{7} \)  (D) \( \frac{13}{20} \)

4. 23.5 \times 3.04 =
   (A) 714.4  (B) 79.9  (C) 71.44  (D) 7.99

5. 16 is what percent of 80?
   (A) 5%  (B) 12.8%  (C) 20%  (D) 64%

6. Bill purchased a car and made a down payment of $560. If the down payment was \( \frac{1}{5} \) of the purchase price, what was the purchase price?
   (A) $112  (B) $2,240  (C) $2,800  (D) $4,480

ELEMENTARY ALGEBRA

Directions: Solve each problem and indicate your answer choice in the corresponding oval. You may use blank paper for scratch work, but no calculators.

1. If \( x = 4 \) and \( y = -2 \), then \( x^2y - xy^2 = \)
   (A) 48  (B) 16  (C) -16  (D) -48

2. \( \sqrt{18} + \sqrt{8} = \)
   (A) \( \sqrt{26} \)  (B) \( 5\sqrt{2} \)  (C) 10  (D) 12

3. If \( 2x + 3(x - 2) = 30 \), then \( x = \)
4. One factor of $3a^2 - 13a - 10$ is
(A) $(3a + 2)$  (B) $(3a - 5)$  (C) $(a + 2)$  (D) $(a + 5)$

5. If $A$ represents the number of apples purchased at 15 cents each and $B$ represents the number of bananas purchased at 10 cents each, which of the following represents the total purchase price in cents?
(A) $25AB$  (B) $25(A + B)$  (C) $15A + 10B$  (D) $A + B$

6. $\frac{5}{a} + \frac{7}{b} =$
(A) $\frac{12}{a + b}$  (B) $\frac{12}{ab}$  (C) $\frac{5b + 7a}{a + b}$  (D) $\frac{5b + 7a}{ab}$

**PRECALCULUS**

Directions: This part covers material in intermediate algebra and precalculus. Important note: if you have not taken a course that covers logarithms, exponents, and trigonometry, and if certain questions look completely unfamiliar to you, please do not guess on the answers. No calculators.

1. If $f(x) = x^2 - 3x + 1$ then $f(x - 2) =$
(A) $x^2 - 5x^2 + 7x - 2$
(B) $x^2 - 7x - 1$
(C) $x^2 - 7x + 11$
(D) $x^2 - 7x + 5$
(E) $x^2 - 2x - 1$

2. $\frac{2^{-1}x^{-2}y^{-2}}{xy^{-3}} =$
(A) $\frac{1}{2y^2}$  (B) $-\frac{2}{y}$  (C) $-\frac{2y}{x^2}$  (D) $-\frac{x^2}{2y}$

E. $\frac{y}{2x^2}$

3. In the graph of $y = f(x)$ below, $f(4) =$

4. $16^{-3/4} =$
(A) 12  (B) $\frac{1}{8}$  (C) $\frac{1}{12}$  (D) $-\frac{1}{8}$  (E) -12

5. Given $\log_a 3 = .5$, then $\log_a \left( \frac{1}{9} \right) =$
(A) 0.25  (B) 0.025  (C) $\frac{1}{a^2}$  (D) -1  (E) -2
6. The figure below shows a portion of the graph of which of the following functions.

A. $y = -2\sin(3x)$
B. $y = -2\cos(3x)$
C. $y = -3\sin(2x)$
D. $y = 3\cos(2x)$
E. $y = 3\sin(2x)$

Key to Sample Questions

READING COMPREHENSION: 1-C, 2-A, 3-C, 4-A, 5-B, 6-C, 7-C
SENTENCE SENSE: 1-B, 2-C, 3-A, 4-D
COMPUTATION: 1-B, 2-C, 3-D, 4-C, 5-C, 6-C
ELEMENTARY ALGEBRA: 1-D, 2-B, 3-D, 4-A, 5-C, 6-D
PRECALCULUS: 1-C, 2-E, 3-A, 4-B, 5-D, 6-C