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6TH
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A R C O

PREPARATION FOR THE

GRE*

GRADUATE RECORD EXAMINATION

(6th Edition)

最新 GRE 考试指南

[美] T. H. 马丁森 编著

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BWPC-S&S 版前言

GRE(Graduate Record Examination),是由美国教育考试中心(ETS)负责主办的研究生资格考试,目前,在我国每年举办2次,分别在4月和10月。许多打算到美国深造的人需要参加这项考试。为帮助中国考生更好地准备GRE,接触到最新的考试动向,世界图书出版公司北京公司经Simon & Schuster国际出版公司授权,在中华人民共和国重印出版与发行世界权威的“Arco英语考试指导系列”丛书。本书为该系列之一。

本书分为5部分,使考生能够较全面、充分地准备GRE。第一部分为GRE概况,包括GRE考试方向、GRE的两种考试方式、GRE计分方法及对GRE三类考题(语文类、数学类、分析类)的介绍;第二部分介绍应试策略,包括进行GRE笔试的一般战术、GRE计算机形式考试的答题技巧、及对三类考题解题技巧的分别介绍;第三部分是数学复习部分,帮助考生复习数学基本概念,熟悉考试时常用的符号、术语、公式,掌握GRE考试中的各种题型;第四部分是实战演练,包括有3套模拟试题,每套题后附有答案,并有详尽的解答,帮助考生把复习过的内容用于实战,考察自身实力,及时找出不足;第五部分是模拟的计算机形式试题,尽管我国目前尚未开始计算机形式的GRE考试,但通过这部分的阅读,不仅可以再次复习各部分的考试,同时还可以了解GRE的考试新动向。

自1995年7月世界图书出版公司北京公司同Simon & Schuster国际出版公司联合推出《95'ARCO最新托福考试指南》以来,受到读者的普遍欢迎。本书是我们同Simon & Schuster国际出版公司的再次合作,也是该GRE考试指南的首次中国版,相信会得到读者的垂爱,并希望此书的出版能为广大考生助一臂之力,在考试中取得好成绩,进入理想的院校。千里之行始于足下,祝您成功!

世界图书出版公司北京公司

1996年7月

本书如何提高你的 GRE 成绩

你所拥有的这本书与其他的考试用书相比,在以下几个方面具有独到之处:

考试方向 (Orientation)

本书首先介绍的是 GRE 的考试方向。这部分内容对那些不太熟悉这项考试的考生来说是十分必要的,同时对那些已有一定程度了解的考生来说也是十分有益的。这一部分不仅向你介绍了 GRE 考试的笔试形式和计算机形式考试的题型,而且对试卷中的 9 大部分试题举例说明,并进行了详细的解答。

考试技巧 (Test Buster)

ARCO 的考试技巧为你提供了大量的解题策略和诀窍,帮你深入地了解 GRE; 并使你在做一般习题和多项选择题时能迎刃而解,获得高分。本书包括近 200 个解题诀窍。

数学复习 (Math Review)

GRE 的考生往往会感到自己对数学似乎有些生疏了。本书则包括数学综合复习部分,囊括了所有 GRE 考生应该掌握的数学基本概念。数学复习部分循序渐进,由易到难,从算术和分数的基本概念到多项式因式分解和解析几何。数学复习部分中还包括试题和完整的解答。

实战演练 (Practice Exams)

本书包括的实战演练题与 GRE 真题十分接近。考题的每一部分都是应考试要求的难度、错误答案和正确答案的合理性及总体规划而精心设计的。而且,在每套试题后都有每道题的详解,不仅讲解正确答案,而且分析答错的原因。解答中还提醒考生如何在同一类型的试题中避免相似的错误。

模拟计算机形式考试 (SCAT)

目前 GRE 已有了计算机形式的考试,简称 CAT (Computer Adaptive Test)。与传统的笔试形式考试相比许多考生更喜欢计算机形式的考试,但是他们也许无法接触到计算机进行训练。基于此原因,本书特设“模拟计算机形式考试”部分。ARCO 独有的这部分内容,能够使你在没有计算机的情况下进行“计算机形式考试”的模拟训练。书中用文字指示来代替计算机考试中选题时的操作,指示你在答对某一部分后进行难度更大的习题的练习,在你答错的情况下则指示你进行一些较简单的习题的练习,引导你循序渐进。

由此可见,本书正是那些真正渴望通过全心研习高质量的考试用书而获得关键性高分的考生们的所选之书。

* * *

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P A R T

ONE

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The letters GRE stand for Graduate Record Examinations: standardized exams given at various locations in the United States and around the world. As of this writing, the GRE is offered both in a paper-and-pencil version and in a computerized version. The paper-and-pencil version is available on certain scheduled dates, and the computerized version is available by appointment throughout the year. Eventually, the pencil-and-paper version will be phased out, and all candidates will take the computerized version.

The GRE testing program includes a General Test as well as Subject Tests in disciplines such as Biology, Mathematics, and Psychology. This book is devoted to the GRE General Test, the most widely used of the GREs. If a school to which you are applying requires a Subject Test in addition to the General Test, check your bookstore for the availability of an ARCO book to help you prepare for that test. For the purpose of simplicity, from here on in this book the term GRE will be used to refer to the General Test—whether the paper-and-pencil version or the computerized version.

The GRE includes verbal ability questions, math ability questions, and analytical ability questions. All questions on the GRE are multiple-choice items. If you take the paper-and-pencil version of the test, you will record your answers on a special sheet. After the testing session, answer sheets and testing materials are sent to a central location for processing; a few weeks later, scores are mailed to candidates. If you take the computerized version of the test, you will select your answers on the computer screen using a pointer controlled by a “mouse.” At the end of the testing session, you will be given the option of having the computer calculate your scores immediately. Written reports are sent out a few weeks later.

The letters CAT stand for Computer Adaptive Test. The CAT differs from the paper-and-pencil version of the GRE in that a computer program chooses problems based on a candidate’s responses to previous questions. Thus, the CAT is “adaptive” or “interactive.” Whereas candidates taking the paper-and-pencil version of the test are presented with a range of questions (including easy, moderately difficult, and difficult items), the CAT selects questions according to each candidate’s ability. Because the CAT is interactive, it uses fewer items and takes less time to administer than the paper-and-pencil version.

To obtain registration materials for the GRE, write:

Graduate Record Examinations Program
CN 6000
Princeton, NJ 08541-6000

Two Formats for the GRE

The CAT and the paper-and-pencil versions of the GRE obviously differ from one another in a very important way: one is presented electronically on the screen of a computer monitor while the other is presented in a booklet. The content of the test, however, is substantially the same regardless of whether it is presented electronically or in booklet form. Consequently, this book is effective preparation for both test forms.

4 GRE: GRADUATE RECORD EXAMINATION

The paper-and-pencil version of the GRE is divided into seven 30-minute sections. Each section is separately timed. Each test includes two verbal sections, two math sections, and two analytical sections, plus a wild card section. The wild card section may be verbal, or math, or analytical, but it will not count toward your score. The wild card section contains questions being tried out for future GREs. You will not, however, be told which is the wild card section.

A TYPICAL PAPER-AND-PENCIL GRE

SECTION	NUMBER OF QUESTIONS	TIME LIMIT
Verbal	38	30 minutes
Math	30	30 minutes
Analytical	25	30 minutes
Verbal	38	30 minutes
Analytical	25	30 minutes
Math	30	30 minutes
Wild Card	—	30 minutes

(Note: The order of the sections varies from administration to administration, and the Wild Card section is not necessarily the last section in the booklet.)

The CAT consists of one verbal section with a 30-minute time limit, one math section with a 45-minute time limit, and one analytical section with a 60-minute time limit. It may also include a wild card section. Because the CAT is interactive, the number of questions per section depends upon individual candidate performance, but the design of the test requires a certain minimum number of responses within the time limit in order to generate a valid score. Failure to complete the minimum number of questions within the time limit for a section results in a "No Score." Additionally, each CAT section has a maximum number of questions.

A TYPICAL CAT

SECTION	NUMBER OF QUESTIONS	MINIMUM NUMBER OF QUESTIONS REQUIRED FOR A SCORE	TIME LIMIT
Warm-Up	—	—	untimed
Verbal	30	24	30 minutes
Math	28	23	45 minutes
Analytical	35	28	60 minutes
Wild Card	—	—	varies

The Warm-Up period is untimed and contains no questions that count toward a score. Instead, the Warm-Up period allows candidates to become familiar with the computer (the mouse in particular) and with the functioning of the CAT program. The Wild Card section could have any configuration.

Scoring the GRE

The GRE is scored on a scale from 200 (the minimum) to 800 (the maximum). Your score report will include three different scores: a verbal score, a quantitative or math score, and an analytical score.

Verbal Questions

The GRE uses four different types of verbal questions: antonyms, analogies, sentence completions, and reading comprehension.

ANTONYMS

An antonym item consists of a single, capitalized word followed by five answer choices. The basic idea is to pick the answer that has the meaning which is most nearly opposite that of the capitalized word.

Example ► **Directions:** The following question consists of a word printed in capital letters, followed by five (5) lettered words or phrases. Select the word or phrase which is most nearly opposite to the capitalized word in meaning.

WAIVE :

- (A) repeat
- (B) conclude
- (C) insist upon
- (D) improve on
- (E) peruse

The best answer is (C). To WAIVE means to forgo or to relinquish. A fairly precise opposite is "to insist upon."

ANALOGIES

A GRE analogy consists of one capitalized word pair followed by five answer choices (also word pairs). The idea is to select from among the choices a word pair that expresses a relationship similar to that expressed by the capitalized word pair.

Example ► **Directions:** The following question consists of a related pair of words or phrases in capital letters followed by five (5) lettered pairs of words or phrases. Choose the lettered pair which best expresses a relationship similar to that expressed by the original pair.

MINISTER : PULPIT ::

- (A) doctor : patient
- (B) student : teacher
- (C) mechanic : engine
- (D) programmer : logic
- (E) judge : bench

The best choice is (E). The PULPIT is the place where the MINISTER does his or her job, and the *bench* is the place where the *judge* does her or his job.

SENTENCE COMPLETIONS

Sentence completion questions consist of a sentence, a part or parts of which have been omitted, followed by five letter choices that are possible substitutions for the omitted parts. The idea is to select the choice that best completes the sentence.

Example ➤ **Directions:** The sentence that follows contains one or more blank spaces indicating that something has been omitted. It is followed by five (5) lettered words or sets of words. Read and determine the general sense of the sentence. Then choose the word or set of words which, when inserted in the sentence, best fits the meaning of the sentence.

Her desire for ---- soon became apparent when she adamantly refused to answer questions about her identity or mission.

- (A) assistance
- (B) anonymity
- (C) success
- (D) publicity
- (E) recognition

The best completion is offered by (B). The logic of the sentence requires that the missing element indicate a desire for something that can be achieved only by refusing to give information. If you don't give any information about your identity or your activities, you hope to insure that you remain *anonymous*.

READING COMPREHENSION

Reading comprehension questions, as the name implies, test your ability to understand the substance and logical structure of a written selection. The GRE uses reading passages of various lengths, ranging from 200 to 550 words. A long passage will be the basis for as many as seven or eight questions while a shorter passage might support only three or four questions. The questions ask about the main point of the passage, about what the author specifically states, about what can be logically inferred from the passage, and about the author's attitude or tone. Here is an example of a shorter reading comprehension selection. (To avoid getting mired in discussion of particular questions, the passage is followed by only two questions, rather than the usual three or four.)

Example ➤ **Directions:** Below is a reading selection followed by a number of questions. Read the selection. Then based on your understanding of the selection, select the best answer to each question.

The international software market represents a significant business opportunity for U.S. microcomputer software companies, but illegal copying of programs is limiting the growth of sales abroad. If not dealt with quickly, international piracy of software could become one of the most serious trade problems faced by the United States.

Software piracy is already the biggest barrier to U.S. software companies entering foreign markets. One reason is that software is extremely easy and inexpensive to duplicate compared to the cost of developing and marketing the software. The actual cost of duplicating a software program, which may have a retail value of \$400 or more, can be as little as a dollar or two—the main component being the cost of the diskette. The cost of counterfeiting software is substantially less than the cost of duplicating watches, books, or blue jeans. Given that the difference between the true value of the original and the cost of the counterfeit is so great for software, international piracy has become big business. Unfortunately, many foreign governments view software piracy as an industry in and of itself and look the other way.

U.S. firms stand to lose millions of dollars in new business, and diminished U.S. sales not only harm individual firms but also adversely affect the entire U.S. economy.

1. In this passage, the author's primary purpose is to
 - (A) criticize foreign governments for stealing U.S. computer secrets
 - (B) describe the economic hazards software piracy poses to the United States
 - (C) demand that software pirates immediately cease their illegal operations
 - (D) present a comprehensive proposal to counteract the effects of international software piracy
 - (E) disparage the attempts of the U.S. government to control software piracy
2. The author's attitude toward international software piracy can best be described as
 - (A) concern
 - (B) rage
 - (C) disinterest
 - (D) pride
 - (E) condescension

The best answer to the first question is (B). This question, typical of the GRE, asks about the main point of the selection. (A) is incorrect. Though the author implies criticism of foreign governments, their mistake, so far as we are told, is not stealing secrets but tacitly allowing the operation of a software black market. (C) is incorrect since this is not the main point of the selection. You can infer that the author would approve of such a demand, but issuing the demand is not the main point of the selection you just read. (D) can be eliminated for a similar reason. Though the author might elsewhere offer a specific proposal, there is no such proposal in the selection you just read. (E) also is wrong since no such attempts are ever discussed. Finally, notice how well (B) does describe the main issue. The author's concern is to identify a problem and to discuss its causes.

The best answer to the second question is (A). This question asks about the tone of the passage, and *concern* very neatly captures that tone. You can eliminate (B) as an overstatement. Though the author condemns the piracy, the tone is not so violent as to qualify as rage. (C) must surely be incorrect since the author does express concern and, therefore, cannot be disinterested.

Math Questions

The GRE uses three different kinds of math questions: problem solving, quantitative comparisons, and graphs. The math sections test your knowledge of arithmetic, basic algebra, elementary geometry, and common charts and graphs.

PROBLEM SOLVING

If you have taken any other standardized exams that included math questions (such as the SAT), then you have probably already seen examples of problem-solving questions. These are your typical word problem questions. Some test arithmetic.

Example ► Betty left home with \$60 in her wallet. She spent $\frac{1}{3}$ of that amount at the supermarket, and she spent $\frac{1}{2}$ of what remained at the drugstore. If Betty made no other expenditures, how much money did she have when she returned home?

- (A) \$10
- (B) \$15
- (C) \$20
- (D) \$40
- (E) \$50

A quick calculation will show that the correct answer is (C). Betty spent $\frac{1}{3}$ of \$60, or \$20, at the supermarket, leaving her with \$40. Of the \$40, she spent $\frac{1}{2}$, or \$20, at the drugstore, leaving her with \$20 when she returned home.

Other problem-solving items test your knowledge of basic algebra.

Example ► If $2x + 3y = 8$ and $y = 2x$, then what is the value of x ?

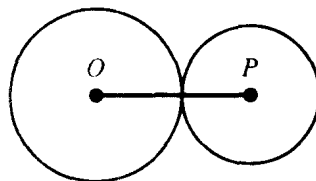
- (A) -6
- (B) -4
- (C) 0
- (D) 1
- (E) 4

The best answer is (D). To answer the question, you need to solve for x . Since $y = 2x$, you can substitute $2x$ for y in the first equation:

$$\begin{array}{ll} & 2x + 3(2x) = 8 \\ \text{Multiply:} & 2x + 6x = 8 \\ \text{Add:} & 8x = 8 \\ \text{Divide:} & x = 1 \end{array}$$

Problem-solving items also test your knowledge of elementary geometry.

Example >



In the figure above, circle O and circle P are tangent to each other. If the circle with center O has a diameter of 8 and the circle with center P has a diameter 6, what is the length of segment OP ?

- (A) 7
- (B) 10
- (C) 14
- (D) 20
- (E) 28

The correct answer is (A). The segment OP is made up of the radius of circle O and the radius of circle P . To find the length of OP , you need to know the lengths of the two radii. Since the length of the radius is one-half that of the diameter, the radius of circle O is $\frac{1}{2}(8)$ or 4, and the radius of circle P is $\frac{1}{2}(6)$ or 3. So the length of OP is $3 + 4 = 7$.

QUANTITATIVE COMPARISONS

The second type of math question on the GRE is quantitative comparison. Quantitative comparisons are presented in an unusual format with special instructions. Without trying to understand all of the subtleties of the type, you can get the general idea of quantitative comparisons by reading a short summary of the instructions.

Directions: For each of the following questions two quantities are given, one in Column A and one in Column B. Compare the two quantities and mark your answer sheet with the correct lettered conclusion. These are your options:

- A: If the quantity in Column A is the greater;
- B: if the quantity in Column B is the greater;
- C: if the two quantities are equal;
- D: if the relationship cannot be determined from the information given.

Some quantitative comparisons test arithmetic, algebra, and geometry.

Example >

Column A

Column B

$$6 - \frac{4}{2}$$

$$5 - \frac{4}{4}$$

The correct answer is (C). Column A is just $6 - 2 = 4$, and Column B is $5 - 1 = 4$. Both columns have the value of 4, so they are equal.