

The
OFFICIAL
Guide



We prepare the tests—
let us help prepare you!

GRE[®]

PRACTICING to Take the *General* **TEST**

The *Only* Guide

9th
Edition

Containing Actual

GRE General Tests

★ Six Actual GRE General Tests
plus one additional test complete with explanations

★ The Math Review
to familiarize yourself with the
mathematical skills needed for the GRE

★ Test-taking Strategies
and information on how the test is developed

Published by Educational Testing Service
for the Graduate Record Examinations Board

The Graduate Record Examinations® Program offers a General Test measuring developed verbal, quantitative, and analytical abilities and Subject Tests measuring achievement in the following 16 fields:

Biochemistry, Cell and Molecular Biology	Economics Education	Literature in English	Political Science
Biology	Engineering	Mathematics	Psychology
Chemistry	Geology	Music	Sociology
Computer Science	History	Physics	

The tests are administered by Educational Testing Service under policies determined by the Graduate Record Examinations Board, an independent board affiliated with the Association of Graduate Schools and the Council of Graduate Schools.

The Graduate Record Examinations Board has officially made available for purchase a General Test practice book. The Board has also made available for purchase practice books for 15 of the 16 Subject Tests each containing a full-length test. No practice book is currently available for the Biochemistry, Cell and Molecular Biology Test. The Subject Test practice books and *Practicing to Take the General Test* — 9th Edition may be purchased by using the order form on page 511.

Individual descriptive booklets for the General Test and all 16 Subject Tests are available free of charge. The booklets contain sample questions and descriptions of each test. The *GRE Information and Registration Bulletin* is also available free of charge. You may request copies of the *Bulletin* and descriptive booklets by writing to:

Graduate Record Examinations
Educational Testing Service
P.O. Box 6014
Princeton, NJ 08541-6014

Practice materials are developed to familiarize examinees with the types of questions they will see on actual GRE tests and to help them estimate their performance. The materials consist of previously administered paper-and-pencil tests. Differences in the number of items and the actual format of the test may be found. Questions in this practice book are presented in a different format from that used in the Computer-Based Testing (CBT) Program.

The Graduate Record Examinations Board and Educational Testing Service are dedicated to the principle of equal opportunity, and their programs, services, and employment policies are guided by that principle.

EDUCATIONAL TESTING SERVICE, ETS, the ETS logo,
GRADUATE RECORD EXAMINATIONS, and GRE are registered trademarks
of Educational Testing Service.

Copyright © 1994 by Educational Testing Service. All rights reserved.

USA: 0-446-39469-6
CAN: 0-446-39470-X

TABLE OF CONTENTS

Practicing to Take the GRE General Test	4
Test-Taking Strategy	5
Procedures for Practicing	6
How to Score Your Practice Test	7
Evaluating Your Performance	7
Additional Information	8
Test Preparation Material	8
Purpose of the GRE General Test	8
How the Test Is Developed	9
Description of the General Test	9
Verbal Ability	10
Quantitative Ability	20
Analytical Ability	34
The New GRE Computer Adaptive Test (CAT)	44
Math Review	49
GRE General Test GR90-16	113
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	160
Score Conversion Table	161
GRE General Test GR86-2 (with explanations)	163
Explanations of Answers to Questions in GRE General Test GR86-2	201
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	263
Score Conversion Table	264
GRE General Test GR91-17	265
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	310
Score Conversion Table	311
GRE General Test GR91-18	313
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	354
Score Conversion Table	355
GRE General Test GR91-19	357
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	400
Score Conversion Table	401
GRE General Test GR92-1	403
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	448
Score Conversion Table	449
GRE General Test GR92-2	451
Answer Key and Percentages of Examinees Answering Each Question	
Correctly	498
Score Conversion Table	499
General Test Average Scores for Seniors and Nonenrolled College	
Graduates, Classified by Intended Graduate Major Field Group	499
Answer Sheets	501
Order Form	511

PRACTICING TO TAKE THE GRE® GENERAL TEST

The General Test is intended to measure verbal, quantitative, and analytical skills. Although a brief review will not dramatically change the abilities you have acquired over years, use of this book may help you evaluate your ability level and identify areas for further study before you take the General Test.

This practice book contains the six GRE® General Tests that were given at GRE test centers in June 1990, December 1990, February 1991, June 1991, December 1991, and February 1992 and an additional special full-length test with questions, answers, and explanations. The tests are complete except for the single section of trial questions in each test that was not counted in the scoring. The location of the nonscored section varies from test to test. The order of the verbal, quantitative, and analytical abilities sections may vary; therefore, when you take the General Test to earn scores, you may find that these sections are not in the same order as they appear in these tests.

The practice book also contains detailed descriptions of the nine general types of questions used in the General Test and suggested strategies for answering them. Forty-eight sample questions with explanations illustrate these strategies.

On the following pages are suggestions for the use of this practice book. To obtain maximum benefit, try the following:

- Take the first test, score it, and compare your scores with the scores of other people who took the test by referring to the table on page 160.
- Read the practice material on pages 8-43.
- Then work through the test with explanations.
- Take the second test, score it, and compare these scores with your scores on the first test to note your improvement and/or any persistent areas of weakness.
- Review again the sample questions and explanations related to the areas where you have answered questions incorrectly. This will help guide you to further study.
- When you are ready, take the third test. The scores you earn on this test are good estimates of what your performance might be if you take the General Test under standard conditions in the near future. If you believe you need more practice, take any or all of the remaining tests.
- Be sure to observe the time limits for each section.

might seem to be a reasonable assumption on the basis of outside knowledge) because no such information is provided in the data. In 1975 the combined production of the Soviet Union, the United States, and Saudi Arabia was about 9 billion barrels. Iran's production was about 2 billion and the remaining 5 countries produced less than 1 billion each, giving a total of less than 7 billion barrels for these countries. Therefore Statement III can be concluded, and the answer is C.

Analytical Ability

Each analytical section includes two kinds of questions:

- analytical reasoning questions in groups of three or more questions, with each group based on a different set of conditions describing a fictional situation, and
- logical reasoning questions, usually with each question based on a separate short prose passage, but sometimes with two or three questions based on the same passage.

These sections of the General Test are designed to measure the ability to think analytically. Analytical reasoning questions focus on the ability to analyze a given structure of arbitrary relationships and to deduce new information from that structure, and logical reasoning questions focus on the ability to analyze and critique argumentation by understanding and assessing relationships among arguments or parts of an argument.

The directions for all the questions in the analytical ability sections are the same and are as follows:

Directions: Each question or group of questions is based on a passage or set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. For each question, select the best answer choice given.

Analytical Reasoning

Analytical reasoning questions test the ability to understand a given structure of arbitrary relationships among fictitious persons, places, things, or events, and to deduce new information from the relationships given. Each analytical reasoning group consists of (1) a set of about three to seven related statements or conditions (and sometimes other explanatory material) describing a structure of relationships, and (2) three or more questions that test understanding of that structure and its implications. Although each question in a group is based on the same set of conditions, the questions are independent of one another; answering one question in a group does not depend on answering any other question.

No knowledge of formal logic or mathematics is required for solving analytical reasoning problems. Although some of the same processes of reasoning are involved in solving both analytical reasoning problems and

problems in those specialized fields, analytical reasoning problems can be solved using knowledge, skills, vocabulary, and computational ability (simple addition and subtraction) common to college students.

Each group of analytical reasoning questions is based on a set of conditions that establish relationships among persons, places, things, or events. These relationships are common ones such as temporal order (X arrived before Y but after Z), spatial order (City X is west of point Y and point Z), set membership (If Professor Green serves on the committee, then Professor Brown must also serve), and cause and effect (Event Q always causes event R). The conditions should be read carefully to determine the exact nature of the relationship or relationships involved. Some relationships are fixed or constant (The second house on the block belongs to P). Other relationships are variable (Q must be assigned to either campsite 1 or campsite 3). Some relationships that are not given can be easily deduced from those given. (If one condition about books on a shelf specifies that book L is to the left of book Y, and another specifies that book P is to the left of book L, then it can be deduced that book P is to the left of book Y.)

The following strategies may be helpful in answering analytical reasoning questions:

- In general, it is best to answer first those questions in a group that seem to pose little difficulty and then to return to those that seem troublesome. It is best not to start one group before finishing another because much time can be lost later in returning to an analytical reasoning group and reestablishing familiarity with its relationships. Do not avoid a group merely because its conditions look long or complicated.
- In reading the conditions, do not introduce unwarranted assumptions; for instance, in a set establishing relationships of height and weight among the members of a team, do not assume that a person who is taller than another person must weigh more than that person.
- Since it is intended that the conditions be as clear as possible, avoid interpreting them as if they were designed to trick you by means of hidden ambiguities or other such devices. When in doubt, read the conditions in their most obvious, common-language sense. This does not mean, however, that the language in the condition is not intended to be read for precise meaning. It is essential, for instance, to pay particular attention to function words that describe or limit relationships, such as *only*, *exactly*, *never*, *always*, *must be*, *cannot be*, and the like. The result of the thorough reading described above should be a clear picture of a structure of relationships, including what kind or kinds of relationships are involved, who or what the participants in the relationships are, and what is and is not known about the structure of the relationships. For instance, at this point it can often be determined whether only a single configuration of relationships is permitted by the conditions or whether alternatives are permitted.
- Many examinees find it useful to underline key points in the conditions or to draw a simple diagram, as the directions for the analytical sections suggest.

- Even though some people who solve analytical reasoning problems find diagrams to be helpful, other people seldom resort to them. And among those who do regularly use diagrams, there is by no means universal agreement on which kind of diagram is best for which problem or in which cases a diagram is most useful. Therefore, do not be concerned if a particular problem in the test seems to be best approached without the use of diagrams.
- Each question should be considered separately from the other questions in its group; no information, except what is given in the original conditions, should be carried over from one question to another. In many cases a question will simply ask for conclusions to be drawn from the conditions as originally given. An individual question can, however, add information to the original conditions or temporarily suspend one of the original conditions for the purpose of that question only.

Sample Questions with Explanations

Questions 35-36

A half tone is the smallest possible interval between notes.

Note T is a half tone higher than note V.

Note V is a whole tone higher than note W.

Note W is a half tone lower than note X.

Note X is a whole tone lower than note T.

Note Y is a whole tone lower than note W.

35. Which of the following represents the relative order of the notes from the lowest to the highest?

- (A) X Y W V T (B) Y W X V T (C) W V T Y X
(D) Y W V T X (E) Y X W V T

The answer to this question can be determined by reading the six given statements and understanding the relationships among them. The relationships may be clarified by drawing a simple illustrative diagram:

T
V
X
W
Y

The diagram shows the relative order of the notes; since the question asks for the order from the lowest note to the highest, the correct answer is (B).

36. Which of the following statements about an additional note, Z, could NOT be true?

- (A) Z is higher than T. (B) Z is lower than Y. (C) Z is lower than W.
(D) Z is between W and Y. (E) Z is between W and X.

Since W and X are a half tone apart, and since a half tone is the smallest possible interval between notes, Z cannot be between W and X. The best answer is therefore (E).

Questions 37-39

F, H, I, J, K, L, M, and N spoke, but not necessarily in that order. Only one person spoke at a time.

F spoke after L and took more time than H.

I spoke before M and after H, and took less time than K.

J spoke after N and before H, and took less time than N and more time than K.

N spoke after F and took less time than H.

37. Of the following, which spoke first?

- (A) H (B) I (C) J (D) L (E) N

38. Of the following, which took the most time?

- (A) F (B) H (C) J (D) K (E) N

39. Which of the following must be true?

- (A) F was the second speaker and gave the third lengthiest speech.
(B) H spoke before I and took more time than N.
(C) I spoke last and gave the shortest speech.
(D) J spoke after M and took less time than F.
(E) N spoke after L and took more time than F.

These questions may be answered by making two lists of the speakers, as follows:

Order of appearance: L F N J H I M

Length of speech: F H N J K I

From these two lists the answers to all three questions emerge. The answer to 37 is (D), to 38 (A), and to 39 (B). For question 39, it is necessary to note that although (A) could be true, there is insufficient information provided to establish that it must be true.

Questions 40-42

To apply to college a student must see the school counselor, obtain a transcript at the transcript office, and obtain a recommendation from Teacher A or Teacher B.

A student must see the counselor before obtaining a transcript.

The counselor is available only Friday mornings and Tuesday, Wednesday, and Thursday afternoons.

The transcript office is open only Tuesday and Wednesday mornings, Thursday afternoons, and Friday mornings.

Teacher A is available only Monday and Wednesday mornings.

Teacher B is available only Monday afternoons and Friday mornings.

40. Maria, a student, has already seen the counselor and does not care from which teacher she obtains her recommendation. Which of the following is a complete and accurate list of those days when she could possibly complete the application process in one day?

- (A) Friday (B) Monday, Wednesday (C) Monday, Friday
(D) Wednesday, Friday (E) Monday, Wednesday, Friday

To complete the application process in one day, the student has to obtain a transcript and a recommendation on the same day. This will be possible on Wednesdays, when both the transcript office and teacher A are accessible, and on Fridays, when both the transcript office and teacher B are accessible, and at no other time. The only other day that a teacher recommendation can be obtained is Monday, but on Mondays no transcripts can be obtained. Thus, the correct answer is (D).

41. John, a student, completed his application procedure in one day. Which of the following statements must be true?

- I. He obtained his recommendation from Teacher A.
II. He obtained his recommendation from Teacher B.
III. He completed the procedure in the morning.

- (A) I only (B) II only (C) III only
(D) I and III only (E) II and III only

If a student completed the entire application procedure in a single day, that day must have been a Friday. It could not have been a Monday, since on Mondays neither counselor nor transcript office is accessible. It could not have been either a Tuesday or a Thursday, because on neither of these days would a teacher have been available for a recommendation. And it could not have been a Wednesday because on Wednesdays one cannot see the counselor before obtaining a transcript. Now, given that the student in question must have done everything on a Friday, I must be false since teacher A is not available on Fridays, II must be true since teacher B is both available on Fridays and the only teacher to be so available, and III must also be true since on Fridays all of the relevant business can only be conducted in the morning. Therefore, the correct answer is (E).

42. Anne, a student, has already obtained her transcript and does not care from which teacher she obtains her recommendation. Which of the following is a complete and accurate list of those days when she could possibly complete the application process?

- (A) Friday (B) Monday, Wednesday (C) Monday, Friday
(D) Wednesday, Friday (E) Monday, Wednesday, Friday

If the student has already obtained her transcript, she must have seen the counselor, too, since seeing the counselor must precede receipt of a transcript. This means that obtaining a recommendation from a teacher is all that is left to do. Since it does not matter which teacher the recommendation is from, the application process can be completed on any day that either teacher A or teacher B is available. Those days are Monday, when both are available, Wednesday, when A is available, and Friday, when B is available. The correct answer, therefore, is (E).

Questions 43-44

A farmer plants only five different kinds of vegetables — beans, corn, kale, peas, and squash. Every year the farmer plants exactly three kinds of vegetables according to the following restrictions:

If the farmer plants corn, the farmer also plants beans that year.

If the farmer plants kale one year, the farmer does not plant it the next year.

In any year, the farmer plants no more than one of the vegetables the farmer planted in the previous year.

43. Which of the following is a possible sequence of combinations for the farmer to plant in two successive years?

- (A) Beans, corn, kale; corn, peas, squash
- (B) Beans, corn, peas; beans, corn, squash
- (C) Beans, peas, squash; beans, corn, kale
- (D) Corn, peas, squash; beans, kale, peas
- (E) Kale, peas, squash; beans, corn, kale

Options (A) and (D) are not possible because corn appears as a vegetable without beans in a given year. Option (E) is not possible because kale appears in two successive years. Option (B) is not possible because two vegetables are repeated in two successive years. Option (C) contains a possible sequence of combinations.

44. If the farmer plants beans, corn, and kale in the first year, which of the following combinations must be planted in the third year?

- (A) Beans, corn, and kale
- (B) Beans, corn, and peas
- (C) Beans, kale, and peas
- (D) Beans, peas, and squash
- (E) Kale, peas, and squash

Beans, peas, and squash are planted in the second year, since kale cannot be repeated two consecutive years and since corn cannot be repeated without repeating beans (only one vegetable can be repeated in consecutive years). In the third year, corn and kale must be planted (only one of the second year vegetables can be repeated). Beans are planted whenever corn is planted, so (A) is the correct answer choice.