

006742

**How to Prepare for the  
Graduate  
Record Examination**

**GRE**

**Sixth Edition**

006742

# **Barron's How to Prepare for the Graduate Record Examination**

# **GRE**

**Sixth Edition**

**SAMUEL C. BROWNSTEIN**

AND

**MITCHEL WEINER**

AUTHOR OF SPECIAL CHAPTER ON MATHEMATICS

**STEPHEN HILBERT**



EDUCATIONAL SERIES, INC.  
Woodbury, New York/London/Toronto

© Copyright 1982 by Barron's Educational Series, Inc.

Prior editions © Copyright 1981, 1979, 1977, 1973, 1967 by Barron's Educational Series, Inc.

All rights reserved.

No part of this book may be reproduced  
in any form, by photostat, microfilm, xerography,  
or any other means, or incorporated into any  
information retrieval system, electronic or  
mechanical, without the written permission  
of the copyright owner.

*All inquiries should be addressed to:*

Barron's Educational Series, Inc.

113 Crossways Park Drive

Woodbury, New York 11797

Library of Congress Catalog Card No. 81-22799

International Standard Book No. 0-8120-2506-7

**Library of Congress Cataloging in Publication Data**

Brownstein, Samuel C., 1909-

Barron's how to prepare for the graduate record  
examination.

1. Graduate record examination—Study guides.

I. Weiner, Mitchel, 1907- . II. Hilbert, Stephen.

III. Title. IV. Title: How to prepare for the graduate  
record examination.

LB2367.4.B76 1982 378'.1664 81-22799  
ISBN 0-8120-2506-7 AACR2

**PRINTED IN THE UNITED STATES OF AMERICA**

2345 051 9876543



## PREFACE

The publication of this sixth edition within a short time after the appearance of the fifth edition is evidence of our constant effort to keep pace with changes in the format and content of the Graduate Record Examination. Recently, certain changes in the Analytical Ability section of the test were made by the test makers. With the aid of specialists in the field, the material in this present edition has been modified to reflect these changes. Drill material in the revised analytical section has been expanded to provide more preparation for analytical reasoning and logical reasoning questions. The practice tests have been revised to simulate the style and format of the actual test as it is now given. The importance of the GRE Board's policy whereby guessing is no longer penalized is explained in detail. As a result of these and other timely revisions, *Barron's How to Prepare for the GRE* remains the outstanding preparation for this challenging test.

We realize that some candidates for the GRE are concerned more with one area of the test than with another. Each section is in itself a comprehensive unit. Students whose undergraduate courses concentrated on reading may feel a bit insecure about the mathematics section of the

test. They will find the mathematics review in this book most useful. On the other hand, science or mathematics majors may feel that their growth in vocabulary and reading comprehension did not keep up with their mastery of the subject matter in their field. Diligent use of the study material in this book will serve as an excellent preparation for the test. Correct answers are supplied for all exercises, and in the mathematics tests correct solutions are also given (keyed to the relevant review section), so that each test is not only a test experience but a learning situation.

In the present edition we have included a diagnostic test early in the book to help busy college students plan a study program which will not interfere with their other obligations. Students who analyze specific weaknesses and stress those items in preparation for the examination will appreciate this added feature.

The authors are grateful to the many readers who took time to communicate with us and to offer suggestions for making this the best publication in the field. We are indebted to our publisher, Mr. Manuel H. Barron, who made available to us such talented editors as Ruth Pecan and Karl Weber.

S.C.B.  
M.W.

# CONTENTS

## PREFACE

vi

## CHAPTER 1

### **The Graduate Record Examinations**

1

General Description

General Test

Subject Tests

How to Apply

Some Hints on Taking the Tests

Sample Questions

Timetable for the New GRE

How to Use This Book Effectively

## CHAPTER 2

### **A Diagnostic Test**

13

Examination

Answer Key

Summaries of Results and Self-Appraisal Chart

Answer Analyses

## CHAPTER 3

### **Reviewing Vocabulary**

67

Basic Word List With:

Etymology Review

Synonym and Antonym Tests

Honor Word List With:

Synonym and Antonym Tests

Overall Review Tests

Answer Keys

CHAPTER 4

**The Sentence Completion Question**

161

Illustrations  
Exercises  
Answer Keys

CHAPTER 5

**The Analogy Question**

170

Illustrations  
Exercises  
Answer Keys

CHAPTER 6

**Testing Reading Skills**

177

Reading Techniques  
Finding the Central Thought  
Finding Specific Detail  
Finding Implications and Drawing Inferences  
Determining the Meaning of Strange Words  
Determining Special Techniques Used by the Author  
Illustrations  
Exercises  
Answer Keys

CHAPTER 7

**Mathematics Review**

219

Review  
Arithmetic  
Algebra  
Geometry  
Tables and Graphs  
Quantitative Comparison Questions  
Formulas  
Mathematical Hints  
Exercises  
Answer Keys  
Answer Analysis

CHAPTER 8

**Analytical Ability**

348

Analytical Reasoning (Puzzles)  
Logical Reasoning

**Test Yourself—Five Practice Tests**

**362**

**Model Test One**

**Answer Keys**

**Summaries of Results and Self-Appraisal Charts**

**Answer Analyses**

**Model Test Two**

**Answer Keys**

**Summaries of Results and Self-Appraisal Charts**

**Answer Analyses**

**Model Test Three**

**Answer Keys**

**Summaries of Results and Self-Appraisal Charts**

**Answer Analyses**

**Model Test Four**

**Answer Keys**

**Summaries of Results and Self-Appraisal Charts**

**Answer Analyses**

**Model Test Five**

**Answer Keys**

**Summaries of Results and Self-Appraisal Charts**

**Answer Analyses**



# THE GRADUATE RECORD EXAMINATIONS

*The purpose of this chapter is to explain the nature of the Graduate Record Examinations, with particular emphasis on the General Test. Questions commonly asked by applicants will be answered.*

## Who takes the Graduate Record Examinations?

These tests, referred to as the GRE, are required of candidates for admission to many graduate and professional schools and fellowship competitions.

## How are the results of the GRE used?

Sponsors of fellowships use this competitive examination as one of the factors to select the recipients of their awards. More frequently, the scores obtained by applicants together with their undergraduate records and recommendations determine admission to graduate school. Scores obtained by students who studied in schools outside of the United States are given particular attention. Also, special consideration is given to scores of students from low-income families who might have been denied full educational opportunity.

## What is the General Test of the GRE?

Starting in October, 1982, the Aptitude Test of the GRE will be called the General Test. It is a three-hour test that measures scholastic ability at the graduate level. In the verbal section the test covers verbal reasoning and reading comprehension. In the quantitative or mathematics part there are questions that involve arithmetic reasoning, basic algebra and geometry, and the interpretation of data. In the analytical ability section, the test includes questions on analytical reasoning and logical reasoning. Time is an important factor on this test. It is not wise to linger over a problem that is unusually difficult, since you will be consuming time that might be spent on questions that are less difficult for you. Wild guessing is penalized by the deduction of a fraction of the number of incorrect answers from the number of correct answers.

## What are the Subject Tests of the GRE?

Starting in October 1982, the Advanced Test of the GRE will be called the Subject Test.

Subject Tests are offered in the following areas: Biology, Chemistry, Computer Science, Economics, Education, Engineering, French, Geography, Geology, German, History, Literature in English, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Sociology, and Spanish.

These tests emphasize an understanding of the basic concepts and the fundamental principles of the subject. Some questions require recall of facts, some measure reasoning with facts, and others call for application of facts and principles. A general review of college courses in the subject to be tested is suggested, but no attempt should be made to learn new materials in a short time.

These tests survey the entire field in a specialized subject, so no candidate is expected to be able to answer all the questions; but the scope of the test is such as to permit candidates to demonstrate their knowledge and abilities. Descriptive booklets for each Subject Test give the scope and contents of each test. They are available without charge from the Educational Testing Service and may be requested with an application to take the test.

## When are these tests given?

The General Test and the Subject Tests are usually given on Saturdays in February, April, October, and December. The General Test only is usually administered in June. Candidates who cannot take the test on Saturday because of religious reasons may apply for a Monday date. A letter signed by a minister or rabbi confirming affiliation with a recognized religious body that observes its Sabbath on Saturday is required. In New York State, and in other states which may have passed laws requiring disclosure of



## 2 THE GRADUATE RECORD EXAMINATION

standardized exams, a curtailed testing schedule may be in effect. Check with the Educational Testing Service for details.

### How do you apply for the GRE?

Write Graduate Record Examinations, Educational Testing Service, Box 955, Princeton, New Jersey 08540.

### What fees are required for the GRE?

The fee for the General Test of the GRE is \$24.00. If registration is not made before the regular closing date, a penalty fee of \$10.00 is required. Standby registration is available for those students who have not filed for the examination upon payment of a service fee of \$20.00. If more than three Score Reports are requested by the applicant, there is a charge of \$5.00 for each transcript over and above the three requested on the original registration form, unless an additional three are ordered at the time of registration for a total cost of \$10.00.

### What special arrangements are made for handicapped candidates?

Students who have a severe visual handicap or some other physical handicap may have a separate testing room, a special proctor, or a test booklet in braille or in large print. Applicants concerned with these problems must accompany their regular applications with a letter describing their handicap.

### What are some hints on taking the GRE?

Arrive at your assigned Center promptly. You will need the admission ticket from the Educational Testing Service and identification. Bring several sharpened No. 2 pencils and a good eraser. Bring a watch. No books, compasses, rulers, slide rules, or papers of any kind may be taken into the examination room. Scratch paper is not permitted; all scratch work is done in the margins of the test books. A special answer sheet is provided on which to record your answers. These are graded by a test-scoring machine.

Read the directions in each section of the test carefully. Hasty reading may cause loss of credit.

Speed is an important factor in taking aptitude tests. Although accuracy is of prime importance, it is advisable to use your time economically. If you cannot finish all the questions in the time allotted, do not become disturbed. No one is expected to do all the questions correctly. It is wise to work as rapidly as possible without sacrificing accuracy, and not to waste time on one particular question that offers great difficulty. If you complete a section of the test before time is called, it is advisable to go back and reconsider the questions that were not answered.

Formerly, a "guessing penalty" was imposed on the GRE, which made it inadvisable to answer questions on which you could not eliminate answers. However, in October, 1981, the guessing penalty was removed from the GRE. Therefore, it is now worthwhile to answer every question on the exam, even if you have no idea as to the right answer. Of course, in most cases, it will be possible to eliminate at least one or two answers as clearly wrong, and this will improve your chances of guessing correctly. But be sure to fill in an answer to every question, even if you cannot eliminate any answers.

### How are the answers indicated on the examination?

At the beginning of the examination you will be given an Answer Sheet on which to record your answers. You will be instructed to blacken the space in a lettered circle to indicate your choice of the correct answer. The circles will appear thus:

1. (A) (B) (C) (D) (E)

4. (A) (B) (C) (D) (E)

2. (A) (B) (C) (D) (E)

5. (A) (B) (C) (D) (E)

3. (A) (B) (C) (D) (E)

6. (A) (B) (C) (D) (E)

SAMPLE: 1. Reno is

- (A) a country
- (B) a mountain
- (C) an island
- (D) a city
- (E) a state

1. (A) (B) (C) (D) (E)

## Sample GRE General Test Questions

### Verbal Ability

Verbal ability is tested by questions involving knowledge of vocabulary, sentence completion, word relationships, and reading comprehension. Each of these types of questions is illustrated below:

#### 1 Antonyms

Each of the following questions consists of a word printed in capital letters, followed by five lettered words. Choose the lettered word which is opposite in meaning to the word in capital letters.

- 1. APPROBATION: (A) censure (B) recognition (C) concern (D) exaltation (E) uncertainty
- 2. DISSUADE: (A) rearm (B) entice (C) talk (D) forget (E) punish

3. SEDATE: (A) heavy (B) volatile  
(C) deliberate (D) considerate (E) quantitative
4. CONFORMIST: (A) shaper (B) fanatic  
(C) recidivist (D) recluse (E) recusant
5. AIMLESS: (A) tendentious (B) immature  
(C) suppositious (D) temerarious (E) atavistic

Answers: 1. A 2. B 3. B 4. E 5. A

(In Chapter 3, the reader will find a review of the vocabulary needed for this type of question. Almost one thousand vocabulary questions are provided in Chapters 2, 3, and 9.)

## II Sentence Completions

In each of the sentences below there is a blank space indicating that a word has been omitted. Beneath the sentence are five lettered words. From these five words you are to choose the one that, when inserted in the blank space, best fits in with the meaning of the sentence as a whole. In some sentences, two words are omitted; in these sentences you will be given five pairs of words. Select the pair that best completes the sentence.

6. In his desire to pattern his poetry in the contemporary vein, he often neglected \_\_\_\_\_ in order to achieve the current \_\_\_\_\_.  
(A) prosody . . . theme (B) substance . . . form  
(C) quality . . . quantity (D) cadence . . . dissonance (E) rhyme . . . rhythm
7. Despite all the reports of physicians and health authorities, some individuals find that cigarette smoking is \_\_\_\_\_.  
(A) habit-forming (B) deleterious (C) stimulating (D) sedating (E) malignant
8. We were unable to reach a decision because we felt that the speaker had been \_\_\_\_\_ and had avoided answering many of our questions.  
(A) belligerent (B) practical (C) contentious (D) unprepared (E) noncommittal
9. In primitive times, poetry was written to be heard; today, we frequently overlook the \_\_\_\_\_ nature of the poet's work.  
(A) stylistic (B) verbal (C) primary (D) actual (E) oral
10. What we consider a luxury at one time frequently becomes a \_\_\_\_\_; many families find that ownership of two cars is \_\_\_\_\_.  
(A) fad . . . ridiculous (B) necessity . . . indispensable (C) necessity . . . undesirable (D) trend . . . fashionable (E) nuisance . . . indispensable

Answers: 6. B 7. C 8. E 9. E 10. B

(This type of question is discussed in Chapter 4. Drill material can be found in Chapters 2, 4, and 9.)

## III Analogies

Each of the questions below consists of two words which have a certain relationship to each other, followed by five lettered pairs of related words. Select the lettered pair of words that has the same relationship as the original pair of words.

11. ZOOLOGY : ANIMALS :: (A) chemistry : atoms (B) mathematics : geometry (C) botany : plants (D) ecology : pollution (E) history : people
12. RECIDIVIST : BACKSLIDES :: (A) plagiarist : copies (B) patient : recovers (C) embezzler : lies (D) convert : proselytizes (E) automobile : backfires
13. CONFIRMED : INVETERATE :: (A) financial : bankrupt (B) immature : callow (C) knowledgeable : supposed (D) careful : punishing (E) credible : incredible
14. WIT : CONVERSATION :: (A) monologue : discussion (B) ornament : decoration (C) spice : food (D) humor : seriousness (E) gray : black
15. CONCERTO : VIRTUOSO :: (A) opera : diva (B) symphony : conductor (C) violin : piano (D) ensemble : solo (E) play : playwright

Answers: 11. C 12. A 13. B 14. C 15. A

(Verbal analogy questions are discussed in Chapter 5. Additional analogy questions with explanations are provided in Chapters 2 and 9.)

## IV Reading Comprehension

Read the following passage and answer the questions at the end on the basis of what is stated or implied in the passage.

Signs of deafness had given him great anxiety as early as 1798. For a long time he successfully concealed it from all but his most intimate friends, while he consulted physicians and quacks with eagerness; but neither quackery nor the best skill of his time availed him, and it has been pointed out that the root of the evil lay deeper than could have been supposed during his lifetime. Although his constitution was magnificently strong and his health was preserved by his passion for outdoor life, a post-mortem examination revealed a very complicated state of disorder, evidently dating from childhood (if not inherited) and aggravated by lack of care and good food. The touching document addressed to his brothers in 1802, and known as his "will," should be read in its entirety. No verbal quotation short of the whole will do

justice to the overpowering outburst which runs in almost one long unpunctuated sentence through the whole tragedy of Beethoven's life, as he knew it then and foresaw it. He reproaches men for their injustice in thinking and calling him pugnacious, stubborn, and misanthropical when they do not know that for six years he has suffered from an incurable condition aggravated by incompetent doctors. He dwells upon his delight in human society from which he has had so early to isolate himself, but the thought of which now fills him with dread as it makes him realize his loss, not only in music but in all finer interchange of ideas, and terrifies him lest the cause of his distress should appear. He declares that, when those near him had heard a flute or a singing shepherd while he heard nothing, he was only prevented from taking his life by the thought of his art, but it seemed impossible for him to leave the world until he had brought out all that he felt to be in his power. He requests that after his death his present doctor, if surviving, shall be asked to describe his illness and to append it to this document in order that at least then the world may be as far as possible reconciled with him. He leaves his brothers property, such as it is, and in terms not less touching, if more conventional than the rest of the document, he declares that his experience shows that only virtue has preserved his life and his courage through all his misery.

During the last twelve years of his life, his nephew was the cause of most of his anxiety and distress. His brother, Kaspar Karl, had often given him trouble—for example, by obtaining and publishing some of Beethoven's early indiscretions, such as the trio variations, *op.* 44, the sonatas, *op.* 49, and other trifles. In 1815, after Beethoven had quarreled with his oldest friend, Stephan Breuning, for warning him against trusting his brother in money matters, Kaspar died, leaving a widow of whom Beethoven strongly disapproved, and a son, nine years old, for the guardianship of whom Beethoven fought the widow through all the law courts. The boy turned out utterly unworthy of his uncle's persistent devotion and gave him every cause for anxiety. He failed in all his examinations, including an attempt to learn some trade in the polytechnic school, whereupon he fell into the hands of the police for attempting suicide, and, after being expelled from Vienna, joined the army. Beethoven's utterly simple nature could neither educate nor understand a human being who was not possessed by the wish to do his best. His nature was passionately affectionate, and he had suffered all his life from the want of a natural outlet for it. He had often been deeply in love and made no secret of it; but Robert Browning had not a more intense dislike of "the artistic temperament" in morals, and though Beethoven's attachments were almost hopelessly above him in rank, there is not one that was not honorable and respected by society as

showing the truthfulness and self-control of a great man. Beethoven's orthodoxy in such matters has provoked the smiles of Philistines, especially when it showed itself in his objections to Mozart's *Don Giovanni* and the grounds for selecting the subject of *Fidelio* for his own opera. The last thing that Philistines will ever understand is that genius is far too independent of convention to abuse it; and Beethoven's life, with all its mistakes, its grotesqueness, and its pathos, is as far beyond the shafts of Philistine wit as his art.

16. The title that best expresses the main idea of this passage is
  - (A) A Great Genius
  - (B) Beethoven's Deafness
  - (C) Tribulations of a Genius
  - (D) An Undeserving Nephew
  - (E) A Revealing Will
17. By the statement that "genius is far too independent of convention to abuse it" the author implies that
  - (A) an artist does not understand conventional morality
  - (B) Philistines expect geniuses to be morally conventional
  - (C) Beethoven lived within a conventional moral code
  - (D) *Don Giovanni* abuses conventional standards
  - (E) Beethoven shared the same morals as other artists
18. Beethoven's contemporaries thought that he was
  - (A) a recluse
  - (B) inspired
  - (C) wealthy
  - (D) a good brother-in-law
  - (E) very gregarious
19. Beethoven was distressed by his nephew's
  - (A) extravagance
  - (B) unwillingness to do his best
  - (C) joining the army
  - (D) failure to enter polytechnical school
  - (E) lack of musical background
20. Opus 44 and Opus 49 are called "indiscretions" because they were
  - (A) published by Beethoven's brother
  - (B) not written by Beethoven
  - (C) written in Beethoven's youth
  - (D) inferior efforts
  - (E) romantic in theme

Answers: 16. C 17. C 18. A 19. B 20. D

(Additional reading comprehension exercises can be found in Chapters 2, 6, and 9.)



## Quantitative Ability

### I Data Interpretation Questions, Verbal Questions

The following questions are similar to those you will encounter on the mathematics section of the GRE General Test. Be sure to note that: the numbers used are real numbers, and figures are drawn to scale unless otherwise noted.

21. The product of 8754896 and 48933 is

- (A) 428403325965 (B) 428403325966  
(C) 428403325967 (D) 428403325968  
(E) 428403325969

EXPLANATION: Observe the choices given. They vary only in the last digit. This should therefore be your only concern in choosing the correct answer. Since you are multiplying a number ending in 6 with a number ending in 3, then the product must be a number ending in 8, since  $6 \times 3 = 18$ . The correct answer is (D).

22. At a lecture  $\frac{3}{4}$  of the audience consists of instructors, and the rest are students. If the ratio of male students to female students is 3:4, approximately what percent of the entire audience is composed of female students?

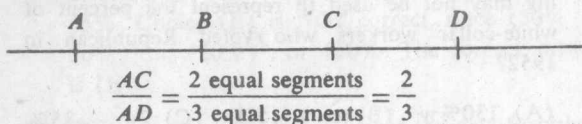
- (A) 0.1% (B) 1.0% (C) 1.4% (D) 10% (E) 14%

EXPLANATION: Since  $\frac{1}{4}$  of the audience is composed of students, the 3:4 ratio refers to this  $\frac{1}{4}$ . Actually, a ratio of 3:4 means that  $\frac{3}{7}$  of this  $\frac{1}{4}$ , or  $(\frac{3}{7})(\frac{1}{4})$ , or  $\frac{3}{28}$  of the entire audience, consists of male students and  $\frac{4}{7}$  of this  $\frac{1}{4}$ , or  $(\frac{4}{7})(\frac{1}{4})$ , or  $\frac{1}{7}$  of the entire audience, consists of female students.  $\frac{1}{7} = .14$  or 14%. The correct answer is (E).

23. Points  $B$  and  $C$  lie on line  $AD$  so that  $AB = BC = CD$ . What part of  $AD$  is  $AC$ ?

- (A)  $\frac{1}{4}$  (B)  $\frac{1}{3}$  (C)  $\frac{2}{4}$  (D)  $\frac{2}{3}$  (E)  $\frac{3}{4}$

EXPLANATION:



The correct answer is (D).

24. If  $3x = \frac{5}{6}y$ , then  $5y$  equals

- (A)  $\frac{1}{2}x$  (B)  $2x$  (C)  $3.6x$  (D)  $5x$  (E)  $18x$

EXPLANATION: A time-consuming method would be to solve for  $y$  in terms of  $x$  and to substitute that value in  $5y$ . A superior method would be to multiply both sides of the equation by 6 in order to obtain a value of  $5y$ .

$$3x = \frac{5}{6}y$$

$$(6)(3x) = (\frac{5}{6}y)(6)$$

$$18x = 5y$$

The correct answer is (E).

25. If  $2^{n+2} = 8$ , then  $n$  equals

- (A) -1 (B) +1 (C) 2 (D) 3 (E) 4

EXPLANATION:  $2^3 = (2)(2)(2)$  or 8. Therefore,  $n + 2 = 3$  and  $n = 1$ . The correct answer is (B).

26. If the square root of 5 is 2.236, then the square root of 80 equals 2.236 times

- (A) 2 (B) 2.5 (C) 3 (D) 4 (E) 5

EXPLANATION: Since 80 equals 5 times 16, the square root of 80 equals the square root of 5 times the square root of 16. Since the square root of 16 is 4, the square root of 80 is 2.236 times 4. The correct answer is (D).

27. Of the following, which is the smallest container that will hold one pound of water? (One gallon of water weighs 8.3 pounds.)

- (A)  $\frac{1}{2}$  pint (B) 1 pint (C)  $1\frac{1}{2}$  pints (D) 1 quart (E)  $1\frac{1}{2}$  quarts

EXPLANATION: This problem involves ratio and proportion.

$$\frac{\text{gallons of water}}{\text{pounds of water}} = \frac{1 \text{ gallon}}{8.3 \text{ pounds}}$$

Let  $x$  = number of gallons in one pound.

$$\text{Then, } \frac{1}{8.3} = \frac{x}{1}$$

$$8.3x = 1 \quad (\text{the product of the means equals the product of the extremes})$$

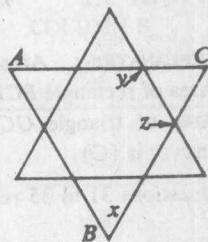
$$\text{and } 83x = 10 \quad \text{or } x = 10 \div 83$$

$$\text{or } x = .12 \text{ (or slightly less than } \frac{1}{8} \text{ gallon)}$$

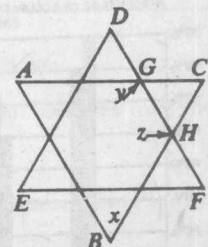
Since 2 pints equal 1 quart and 4 quarts equal 1 gallon, then  $\frac{1}{8}$  gallon equals  $\frac{1}{2}$  quart or 1 pint. The correct answer is (B).

28. If  $BA = BC$ ,  $\angle x = 60^\circ$ , and  $\angle y = 100^\circ$ , then what does  $\angle z =$ ?

- (A)  $100^\circ$  (B)  $110^\circ$  (C)  $120^\circ$  (D)  $130^\circ$  (E)  $140^\circ$



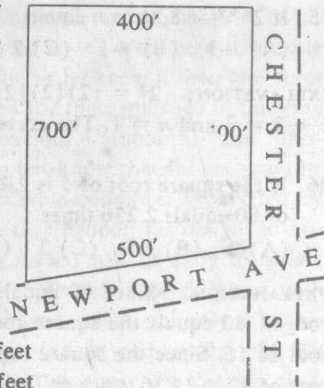
EXPLANATION: Since  $BA = BC$ ,  $\angle A = \angle C$ . Since  $\angle x = 60^\circ$ ,  $\angle A + \angle C = 120^\circ$ . (The sum of the angles of a triangle equals  $180^\circ$ .) Therefore  $\angle C = 60^\circ$ . Since  $\angle y = 100^\circ$ ,  $\angle CGH = 80^\circ$ , because these angles are supplementary. In triangle  $CGH$ , since  $\angle C = 60^\circ$  and  $\angle CGH = 80^\circ$ , then  $\angle CHG$  must equal  $40^\circ$ . Since  $\angle z$  is the supplement of  $\angle CHG$ , then  $\angle z = 180^\circ - 40^\circ$ , or  $140^\circ$ . The correct answer is (E).



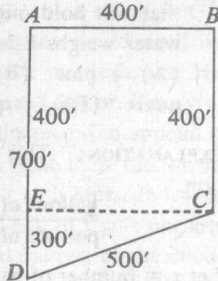
## 6 THE GRADUATE RECORD EXAMINATION

29. What is the area of the lot on the corner of Chester Street and Newport Avenue?

- (A) 160,000 square feet  
(B) 200,000 square feet  
(C) 220,000 square feet  
(D) 230,000 square feet  
(E) 350,000 square feet

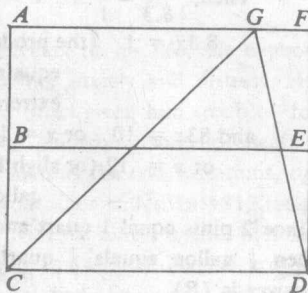


EXPLANATION: Draw  $EC$ .  $EC = AB = 400$  feet. Area of square  $ABCE = (400)^2$ , or 160,000 square feet. Area of triangle  $EDC = \frac{1}{2}(400)(300)$ , or 60,000 square feet. Area of entire lot = 160,000 + 60,000, or 220,000 square feet. The correct answer is (C).



30. In rectangle  $ACDF$ ,  $AB = BC$  and  $FE = ED$ .  $G$  is any point on  $AF$ . The ratio of the area of  $BCDE$  to the area of triangle  $GCD$  is

- (A) 2:1 (B) 1:2  
(C) 1:1 (D) 2:3  
(E) 3:2

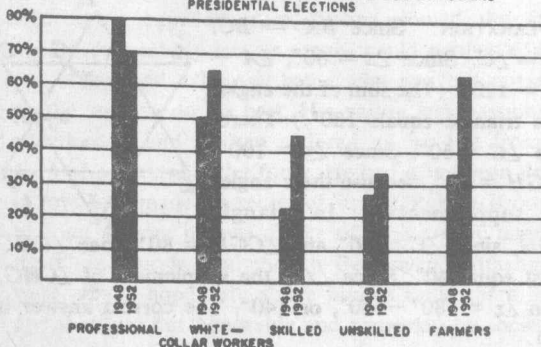


EXPLANATION: Area of rectangle  $ACDF = (AC)(CD)$ . Area of rectangle  $BCDE = (BC)(CD)$  or  $(\frac{1}{2}AC)(CD)$ . Area of triangle  $GCD = (\frac{1}{2})(AC)(CD)$ . The correct answer is (C).

Questions 31 to 35 refer to Graphs I and II.

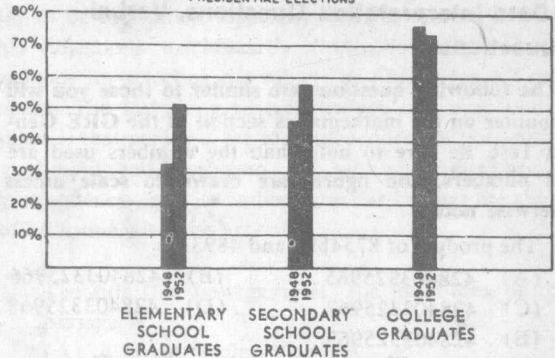
GRAPH I

PERCENTAGE OF OCCUPATIONAL GROUPS VOTING REPUBLICAN DURING PRESIDENTIAL ELECTIONS



GRAPH II

PERCENTAGE OF EDUCATIONAL GROUPS VOTING REPUBLICAN DURING PRESIDENTIAL ELECTIONS



31. Which of the following groups showed the smallest percent increase of Republican voters between the elections of 1948 and 1952?

- (A) professional (B) white-collar workers (C) skilled (D) farmers (E) elementary school graduates

32. Which of the following groups showed an increase of about 100% between the two presidential election years?

- (A) elementary school graduates (B) college graduates (C) professional (D) farmers (E) none of the preceding

33. If  $h$  represents the number of secondary school graduates who voted Republican in 1948, which of the following may be used to represent the number of secondary school graduates who voted Republican in 1952?

- (A)  $\frac{29}{23}h$  (B)  $\frac{28}{25}h$  (C)  $\frac{25}{28}h$  (D)  $h + 12$  (E)  $\frac{3}{25}h$

34. If  $w$  represents the percent of white-collar workers who voted Republican in 1948, which of the following may not be used to represent the percent of white-collar workers who voted Republican in 1952?

- (A)  $130\%w$  (B)  $w + 15\%$  (C)  $2w - 35\%$   
(D)  $\frac{w}{2} + 40\%$  (E)  $(w - 30\%)^2$

35. What percent of the elementary-school-educated unskilled workers voted Republican in 1952?

- (A) 18% (B) 33% (C) 42% (D) 84%  
(E) cannot be determined from the information furnished

EXPLANATIONS FOR QUESTIONS 31 TO 35:

A graph is a pictorial representation of data which gives an overall view of the facts, omitting minor details. It is generally used to make comparisons. It is a

time saver, in that general conclusions can be drawn without the need for studying a mass of figures.

Graphs are used for examination purposes because they call for correct interpretation and calculations based on these interpretations.

31. The professional group showed a decrease. The white-collar workers rose from 50% to 65%, a gain of 15% ( $\frac{15}{100}$ ). The skilled workers rose from 22% to 45%, a rise of 23% ( $\frac{23}{100}$ ). The farmers rose from 32% to 62%, a gain of 30% ( $\frac{30}{100}$ ). The elementary school graduates rose from 32% to 51%, a rise of 19% ( $\frac{19}{100}$ ). Since  $\frac{15}{100}$  is the fraction with the lowest value, the correct answer is (B).

32. Observe that the 1952 bar representing the farmers doubled. The correct answer is (D).

33. In 1948, 46% of the secondary school graduates voted Republican and in 1952, 58% voted Republican. Since  $h$  represents the number of secondary school graduates who voted Republican in 1948, to find the corresponding number for 1952 presents a problem in ratio and proportion.

Let  $x$  equal the number required in this problem.

Then,

$$\begin{aligned}\frac{h}{46} &= \frac{x}{58} \\ 46x &= 58h \\ x &= \frac{58h}{46} \text{ or } \frac{29h}{23} \text{ or } \frac{29}{23}h\end{aligned}$$

The correct answer is (A).

34. The graph shows 50% for 1948 and 65% for the year 1952. Choice (A) is correct, since 65% is 130% of 50% ( $50\% \times 1.3 = 65\%$ ). Choice (B) is correct, since  $50\% + 15\% = 65\%$ . Choice (C) is correct, since  $(2)(50\%) - 35\% = 65\%$ . Choice (D) is correct, since  $(\frac{1}{2})(50\%) + 40\% = 65\%$ . Choice (E) is NOT correct, since  $(50\% - 30\%)^2 = (20\%)^2$ , or 400%. The correct answer is (E).

35. The correct answer is (E), since the data furnished does not give information that would correlate occupation with educational background.

## II Quantitative Comparison

Questions 36, 37, and 38 are examples of quantitative comparison questions. There are only four (4) choices to choose an answer from in this type of question. Quantitative comparison questions will appear with the following instructions:

Each question in this section consists of two quantities, one in Column A and one in Column B. You are to compare the two quantities and on the answer sheet blacken space.

- 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.

NOTE: Position of points, angles, regions, and so forth can be assumed to be in the order shown.

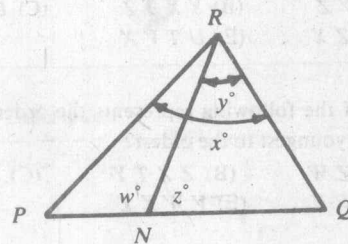
Figures are NOT NECESSARILY drawn to scale and may NOT agree to measures shown unless a note states that the figure is drawn to scale.

Lines shown as straight can be assumed to be straight.

Figures are assumed to lie in the plane unless otherwise indicated.

All numbers used are real numbers. In a question, information concerning one or both of the quantities to be compared is centered above the two columns. A symbol that appears in both columns represents the same thing in Column A as it does in Column B.

Examples 36-38 refer to  $\triangle PQR$ .



	COLUMN A	COLUMN B
36.	$PN$	$NQ$
37.	$y$	$x$
38.	$w + z$	180

EXPLANATIONS FOR QUESTIONS 36 TO 38:

36. Since nothing can be assumed about measures from the figure, the correct answer is (D).  
37. Since  $N$  is between  $P$  and  $Q$ , the correct answer is (B).  
38. Since  $PQ$  is a straight line, the correct answer is (C).

(A complete mathematics review may be found in Chapter 7. Drill material is provided in Chapters 2, 7, and 9.)



## Analytical Ability

The GRE includes two types of analytical ability questions: analytical reasoning (puzzles), represented here by questions 39-41, and logical reasoning questions, represented by questions 42 and 43. The same instructions apply to both question types:

**Each question or group of questions is based on a passage or set of statements. In answering some of the questions, it may be useful to draw a rough diagram. Choose the best answer for each question and blacken the corresponding space on your answer sheet.**

*T* was 30 years old when his son, *W*, was born. *W*'s aunt *U* is three years younger than her brother, *T*, and five years younger than her husband, *Y*. *U* and *Y* have three children named *X*, *Z*, and *V*. Twelve years ago, *X* was born on his father's 28th birthday. In ten years, his brother *Z* will be seven years less than half his father's age, and his sister *V* will be one-third her mother's age.

39. Which of the following represents the order of ages from the oldest to the youngest?  
 (A) *Y T V Z* (B) *Y X T Z* (C) *U X W V*  
 (D) *U T Z X* (E) *U T V X*
40. Which of the following represents the order of ages from the youngest to the oldest?  
 (A) *V X Z W* (B) *Z X T Y* (C) *V T Z X*  
 (D) *W T V Y* (E) *V W X Z*
41. *S*, the older sister of *W*, could possibly be younger than  
 (A) *V* (B) *X* (C) *Z* (D) *Z* and *V*  
 (E) *X*, *V*, and *Z*

We often hear it said that ours is a society ruled by laws, not men. Yet the law is nothing apart from its application to a myriad of diverse, specific cases; and those interpretations are inevitably the work of men and women using their own best judgment, not mindlessly following the dictates of some self-evident, impersonal Law. True, the Constitution is our highest law; yet the Constitution is neither more nor less than what the members of the Supreme Court say it is.

42. The argument above would be most strengthened if it could be shown that  
 (A) any written law establishes guidelines beyond which the rulings of a court may not reasonably stray  
 (B) in making their decisions, judges are largely guided by the precedent of past decisions, which often attain the force of law

- (C) although individual cases may differ widely from one another, the underlying legal principles remain the same  
 (D) most laws have been interpreted in different ways at different times and by different courts  
 (E) the concept of judicial discretion is itself part of our heritage from the English system of law

The Burros play baseball every Friday night, except when it rains. The weather forecaster predicts clear skies for this Friday. When the Burros play baseball, Sam's Bar and Grill, across the street from the stadium, does good business.

43. If the above statements are true, which of the following **MUST** be true?  
 (A) If Sam's Bar and Grill does good business on Friday night, the weather forecaster must have been right.  
 (B) Unless Sam's Bar and Grill does not do good business on Friday night, the weather forecaster must have been wrong.  
 (C) Either the weather forecaster is wrong, or Sam's Bar and Grill will do good business on Friday night.  
 (D) If Sam's Bar and Grill does not do good business on Friday night, the Burros must have cancelled the game despite the clear skies.  
 (E) Either the weather forecaster is right, or Sam's Bar and Grill will not do good business on Friday night.

### EXPLANATIONS FOR QUESTIONS 39-43:

**39-41.** We must start with information that *X* is 12 years old. From that we deduce that his father, *Y*, is now  $28 + 12$  or 40 years old. Since *Y*'s wife, *U*, is 5 years younger than he is, we conclude that she is now 35 years old and her brother, *T*, is  $35 + 3$  or 38 years old. Since *W* was born when his father (*T*) was 30, *W* must be  $38 - 30$  or 8 years old now. To find the age of *Z*, we must consider that his father's age ten years from now will be 50, and *Z* will be  $\frac{1}{2}(50) - 7$  or 18. His age now is  $18 - 10$  or 8. To find *V*'s age we must consider that in ten years her mother will be 45 and at that time *V* will be  $\frac{1}{3}$  of 45 or 15 years old. Therefore, her present age is  $15 - 10$  or 5. To summarize, the ages are: *T* is 38, *U* is 35, *V* is 5, *W* is 8, *X* is 12, *Y* is 40, and *Z* is 8.

- 39. C** (A) is incorrect. The ages are: 40, 38, 5, 8. (B) is incorrect. The ages are: 40, 12, 38, 8. (C) is correct. The ages are: 35, 12, 8, 5. (D) is incorrect. The ages are: 35, 38, 8, 12. (E) is incorrect. The ages are: 35, 38, 5, 12.
- 40. B** (A) is incorrect. The ages are: 5, 12, 8, 8. (B) is correct. The ages are: 8, 12, 38, 40. (C) is incorrect. The ages are: 5, 38, 8, 12. (D) is incorrect. The ages are: 8, 38, 35, 40. (E) is incorrect. The ages are: 5, 8, 12, 8.

41. B Since *S* is older than *W* (who is 8), she must be older than *V* (who is 5) and older than *Z* (who is 8). She possibly could be more than 8 but less than 12, the age of *X*.
42. D The author of the argument is trying to show that the varying ways in which laws may be interpreted are as important as the laws themselves. Choices (A), (B), and (C) would tend to weaken this argument, not strengthen it, since they all suggest ways in which the discretion of individual judges is limited by the legal system. Choice (D) strengthens the argument by demonstrating the importance of judicial decisions in determining the meaning of the law. Choice (E) introduces an irrelevant point.
43. C (A) is wrong because the fact that Sam's does good business does not prove that the weather was clear; it is possible that Sam's may do good business even on a night when the Burros do not play. (B) is wrong because it implies that fair weather will mean bad business for Sam's—the opposite of the truth. (D) is wrong because it assumes that the weather forecaster was correct—not necessarily so. And (E) is wrong because it implies that bad weather necessarily means bad business, which is not so.

(Questions dealing with analytical ability may be found in Chapter 8. Drill material is provided in Chapters 2, 8, and 9.)

## Timetable for the New Graduate Record Examination

**IMPORTANT NOTE:** This is a typical format only. The GRE you take may be slightly different. The order of the sections will probably vary.

*Total Time: 3 hours, 40 minutes*

Section	Time Allowed	Description
I	30 minutes	Verbal Ability 11 antonyms 9 analogies 7 sentence completions 11 reading comprehension items
II	30 minutes	Verbal Ability 11 antonyms 9 analogies 7 sentence completions 11 reading comprehension items
III	30 minutes	Quantitative Ability 15 quantitative comparisons 15 mathematical problems
Ten minute break		
IV	30 minutes	Quantitative Ability 15 quantitative comparisons 15 mathematical problems
V	30 minutes	Analytical Ability 19 analytical reasoning (puzzle) items 6 logical reasoning items
VI	30 minutes	Analytical Ability 19 analytical reasoning (puzzle) items 6 logical reasoning items
VII	30 minutes	Verbal, Quantitative, or Analytical Ability

## How to Use This Book Effectively

### *Take the Diagnostic Test.*

In the chapter that follows you will find a GRE diagnostic test. Your results on this simulated full-length test will serve as a guide for your study program. This book contains a complete review of all the skills covered by the GRE. Your results on this diagnostic test will point out which parts of this book require the greater portion of your attention.

### *Study the chapter approach to the testing material.*

You will find that Chapters 3 through 6 contain valuable drill material to help you build vocabulary, as well as extensive practice material in using word power, with exercises in sentence completions, analogies, and reading comprehension. A special chapter is devoted to a complete review of the mathematics needed to score high on the GRE. It includes explanations and exercises in arithmetic, algebra, plane geometry, and interpretation of data. Chapter 8 discusses the analytical ability question types. The last part of the book provides practice with comparable GRE questions. Five complete tests consistent with the actual test in number of questions, format, level of difficulty, and time allowance are provided.

### *Take the Model Tests.*

Each sample test consists of 76 questions on verbal ability, 60 questions on quantitative ability, and 50 questions testing analytical ability. In addition, each test will have a seventh section consisting of either additional mathematics questions, additional questions on verbal material, or additional analytical ability items. You will probably find that the actual test also follows this pattern.

You should use the tests in this book to confirm your strengths and to discover your weaknesses. Correct answers with complete explanations are given for all questions. In addition, a complete summary of results and self-appraisal chart is offered for each test. First, take the diagnostic test and locate your weaknesses. These areas should receive concentration during your review. Then, take each of the model tests in turn—evaluating your results and reviewing the chapters covering your weaknesses before going on to the next model test. The applicant for the GRE who uses this book diligently will be able to enter the examination with confidence.