

# BARRON'S

The Leader in Test Preparation



# GRE<sup>®</sup>

**MOST UP-TO-DATE REVIEW  
AND PRACTICE TESTS  
CURRENTLY AVAILABLE**

## 21ST EDITION

Sharon Weiner Green, M.A., and Ira K. Wolf, Ph.D.

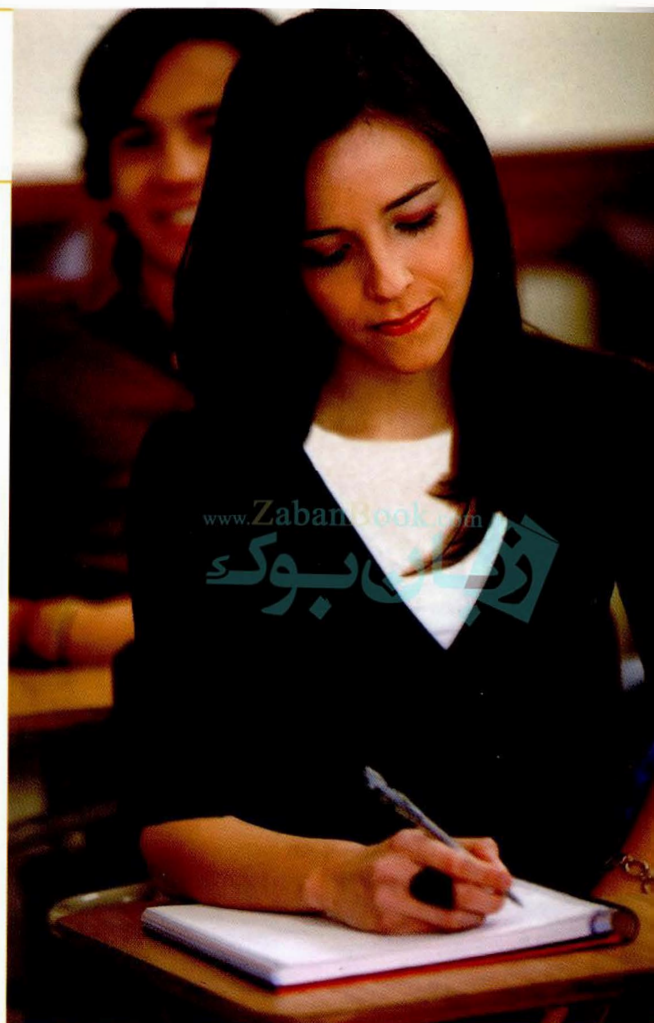
- 4 full-length model tests with comprehensive answer explanations
- Extensive subject review for all sections of the test—Verbal, Quantitative, and Analytical Writing
- Updated GRE Master Word list with definitions and example sentences
- A guided tour of the computer-based GRE featuring screen shots

www.ZabanBook.com

زبان بوک



©Graduate Record Exam and GRE are registered trademarks of Educational Testing Service (ETS). This publication is not endorsed or approved by ETS.



# SCORE HIGHER

## with BARRON'S

**For more than 70 years, BARRON'S experts have been helping students surpass their expectations on standardized tests. This is the only book you will need to get the score you want on the GRE.**



### BOOK

- ✓ Includes two full-length model tests complete with answer explanations
- ✓ Contains a diagnostic test to determine your weaknesses and help you map out your study plan
- ✓ Provides you with Tips, Tactics, and Key Facts to help you improve your score



### CD-ROM

- ✓ Two full-length model tests that simulate the actual GRE in look and feel, complete with answer explanations and automatic scoring



### ONLINE

See inside front cover for details.

- ✓ One diagnostic test to establish your skill profile
- ✓ A personalized GRE study plan to help you focus your time and energy
- ✓ A GRE skill report to keep track of your progress
- ✓ Video lessons and solutions to help with difficult concepts
- ✓ Additional practice questions to optimize your score

## BARRON'S GIVES YOU THE ANSWERS!

*Every question in this book comes with a comprehensive answer explanation.*

[www.ZabanBook.com](http://www.ZabanBook.com)

زبان بوک





**BARRON'S**

**GRE<sup>®</sup>**

© Copyright 2015 by  
Barron's Educational Series, Inc.  
All rights reserved.  
Developed for Barron's  
by Dyton Learning, Inc.

**CD-ROM  
for Windows<sup>®</sup>  
and Mac<sup>®</sup>**

© Graduate Record Exam and GRE are registered trademarks of  
Educational Testing Service (ETS). This Product is not endorsed or  
approved by ETS

ISBN: 978-1-4380-8653-8  
[www.ZabanBook.com](http://www.ZabanBook.com)

**زبان بوک**

# BARRON'S

# GRE<sup>®</sup>

## 21ST EDITION

**Sharon Weiner Green, M.A.**

Former Instructor of English

**Ira K. Wolf, Ph.D.**

President, PowerPrep, Inc.

Former Professor of Mathematics

Former Director of University Teacher Preparation Program

[www.ZabanBook.com](http://www.ZabanBook.com)  
زبان بوک



® Graduate Record Exam and GRE are registered trademarks of Educational Testing Service (ETS). This publication is not approved or endorsed by ETS.

# CONTENTS

<b>Acknowledgments</b> .....	<b>vii</b>
<b>Preface</b> .....	<b>ix</b>
Timetable for a Typical Computer-Based Graduate Record Examination .....	xi
 <b>PART 1: INTRODUCTION/DIAGNOSTIC TEST</b>	
<b>1 What You Need to Know About the GRE</b> .....	<b>3</b>
An Overview of the Computer-Based GRE General Test .....	3
Commonly Asked Questions About the Computer-Based GRE .....	4
GRE Test Format.....	6
Verbal Reasoning.....	6
Quantitative Ability.....	8
Analytical Writing .....	13
<b>2 Test-Taking Tactics for the Computer-Based GRE</b> .....	<b>17</b>
Helpful Hints.....	20
A Guided Tour of the Computer-Based GRE.....	21
<b>3 A Diagnostic Test</b> .....	<b>25</b>
Simulate Test Conditions.....	25
Test.....	29
Self-Appraisal.....	43
Answer Key .....	44
Answer Explanations.....	45
 <b>PART 2: VERBAL ABILITY: TACTICS, REVIEW, AND PRACTICE</b>	
<b>4 Sentence Equivalence and Text Completion Questions</b> .....	<b>55</b>
Testing Tactics.....	56
Practice Exercises.....	66
Answer Key .....	78
<b>5 Reading Comprehension Questions</b> .....	<b>79</b>
Testing Tactics.....	80
Practice Exercises.....	102
Answer Key .....	106
<b>6 Reviewing Vocabulary</b> .....	<b>107</b>
The GRE High-Frequency Word List.....	107
The GRE Master Word List .....	111

### PART 3: ANALYTICAL WRITING: TACTICS, STRATEGIES, AND PRACTICE

Introduction to Part 3 .....180

#### **7 Analytical Writing .....181**

Scoring Guidelines..... 181

Essay Writing: The 5-Step Approach..... 182

How to Handle the Argument-Analysis Task..... 186

Testing Tactics.....190

Practice Exercises..... 200

### PART 4: QUANTITATIVE ABILITY: TACTICS, STRATEGIES, PRACTICE, AND REVIEW

Introduction to Part 4 ..... 212

#### **8 General Math Strategies..... 215**

Testing Tactics..... 218

Practice Exercises..... 231

Answer Key ..... 233

Answer Explanations..... 233

#### **9 Discrete Quantitative Questions ..... 237**

Testing Tactics..... 238

Practice Exercises..... 248

Answer Key ..... 250

Answer Explanations..... 250

#### **10 Quantitative Comparison Questions ..... 253**

Testing Tactics..... 255

Practice Exercises..... 271

Answer Key ..... 273

Answer Explanations..... 273

#### **11 Data Interpretation Questions..... 277**

Testing Tactics..... 278

Practice Exercises..... 282

Answer Key ..... 287

Answer Explanations..... 287

#### **12 Mathematics Review..... 291**

**Arithmetic..... 291**

12-A Basic Arithmetic Concepts..... 292

Practice Exercises ..... 309

12-B Fractions and Decimals ..... 314

Practice Exercises ..... 326

12-C	Percents .....	332
	Practice Exercises .....	339
12-D	Ratios and Proportions .....	345
	Practice Exercises .....	355
12-E	Averages and Statistics .....	361
	Practice Exercises .....	369
<b>Algebra .....</b>		<b>374</b>
12-F	Polynomials .....	374
	Practice Exercises .....	381
12-G	Solving Equations and Inequalities .....	385
	Practice Exercises .....	395
12-H	Word Problems .....	399
	Practice Exercises .....	404
<b>Geometry .....</b>		<b>409</b>
12-I	Lines and Angles .....	409
	Practice Exercises .....	415
12-J	Triangles .....	420
	Practice Exercises .....	431
12-K	Quadrilaterals and Other Polygons .....	437
	Practice Exercises .....	446
12-L	Circles .....	452
	Practice Exercises .....	458
12-M	Solid Geometry .....	464
	Practice Exercises .....	469
12-N	Coordinate Geometry .....	474
	Practice Exercises .....	483
<b>Miscellaneous Topics .....</b>		<b>489</b>
12-O	Counting and Probability .....	489
	Practice Exercises .....	500
12-P	Sequences .....	506
	Practice Exercises .....	510

## PART 5: MODEL TESTS

<b>13 Model Tests .....</b>	<b>515</b>
Model Test 1 .....	519
Answer Key .....	544
Answer Explanations .....	545
Model Test 2 .....	561
Answer Key .....	585
Answer Explanations .....	586
<b>Index .....</b>	<b>599</b>



# Preface

---

**A**s a prospective graduate student concerned with professional advancement, you know the importance of using good tools and drawing on solid research. In this Twenty-first Edition of *Barron's GRE*, we offer you both.

This revision contains the fruits of our close study of the 2011 changes to the GRE General Test. We have scrutinized hundreds of actual GRE questions, traced dozens of GRE reading passages to their sources, analyzed subsets of questions by order of difficulty and question type. We have gone through all the topics in the analytical writing section, categorizing the actual issues you will encounter on your test and analyzing the argument passages, pinpointing their logical flaws. In the process, we have come up with the following features, which should make this Twenty-first Edition particularly helpful to you:

## **TYPICAL GRE QUESTIONS ANALYZED**

We will take you step by step through more than 1,000 practice verbal and mathematical questions that simulate actual GRE questions, showing you how to solve them and how to avoid going wrong.

## **TESTING TACTICS**

We provide you with dozens of proven testing tactics that will help you attack the different types of questions on the GRE.

## **HIGH-FREQUENCY WORD LIST**

This edition contains a newly revised 320-word High-Frequency Word List—320 critical words from *abate* to *zealot* that have occurred and recurred on actual published GREs—plus Barron's GRE Master Word List, your guide to the level of vocabulary expected of graduate school students.

## **COMPREHENSIVE MATHEMATICS REVIEW**

We present you with extensive mathematical review of all the topics that you need to know. This is especially valuable for college students and adults who haven't taken math since high school.



## **GRE-MODELED TESTS**

We have created for you a Diagnostic Test that will enable you to pinpoint your areas of weakness right away and concentrate your review on subjects in which you need the most work, plus two Model Tests, all with answers completely explained, that in format, difficulty, and content echo today's GRE. Two additional tests are on the accompanying CD-ROM (optional).

## **COMPUTER GRE UPDATE**

In this edition we will introduce you to the latest version of the computer-based GRE—and, along with the accompanying CD-ROM (optional), explain everything you need to know about how to take the computerized GRE.

## **ANALYTICAL WRITING UPDATE**

We provide you with an introduction to the GRE analytical writing section, familiarizing you with the range of topics covered and giving you helpful hints on how to write clear, cogent essays in no time at all.

This Twenty-first Edition once more upgrades what has long been a standard text. It reflects the contributions of numerous teachers, editors, and coaches, and the dedication of the staff at Barron's. It also reflects the forensic and rhetorical skills of Lexy Green, Director of Debate at the College Preparatory School, to whom we owe special thanks. We, the authors, are indebted to all these individuals for their ongoing efforts to make this book America's outstanding GRE study guide.



## Timetable for a Typical Computer-Based Graduate Record Examination

TOTAL TIME: 4 HOURS

Section	Time Allowed	Description
1	60 minutes	<i>Analytical Writing</i> Essay 1: Giving one's perspective on an issue Essay 2: Analyzing an argument (30 minutes each)
1-minute break		
2	30 minutes	<i>Verbal Ability</i> 6 text completion questions 5 sentence equivalence questions 9 reading comprehension questions
1-minute break		
3	35 minutes	<i>Quantitative Ability</i> 8 quantitative comparison questions 9 discrete quantitative questions 3 data interpretation questions
10-minute break		
4	30 minutes	<i>Verbal Ability</i> 6 text completion questions 5 sentence equivalence questions 9 reading comprehension questions
1-minute break		
5	35 minutes	<i>Quantitative Ability</i> 7 quantitative comparison questions 10 discrete quantitative questions 3 data interpretation questions
1-minute break		
6	30 or 35 minutes	<i>Experimental Section</i> a third verbal or quantitative section

**NOTE:** Sections 2 through 6 can come in any order—for example, Section 2 could be a Quantitative Ability section and the Experimental Section could be any section except Section 1. Although the Experimental Section will not count in your score, it will look identical to one of the other sections—you won't know which section it is, so you must do your best on every section of the test.

# **PART 1**

# Introduction/ Diagnostic Test

# What You Need to Know About the GRE

1

## AN OVERVIEW OF THE COMPUTER-BASED GRE GENERAL TEST

**T**he GRE General Test is an examination designed by the Educational Testing Service (ETS) to measure the verbal, quantitative, and analytical writing skills you have developed in the course of your academic career. High GRE scores strongly correlate with the probability of success in graduate school: the higher you score, the more likely you are to complete your graduate degree. For this reason, many graduate and professional schools require applicants to take the GRE General Test, a test now given only on computer. (They may also require you to take a GRE Subject Test in your particular field. Subject Tests currently are available in 14 fields.)

The computer-based GRE General Test you take will have five or six sections. There will always be

- one Analytical Writing section composed of two 30-minute tasks (60 minutes)
- two 20-question Verbal Ability sections (30 minutes each)
- two 20-question Quantitative Ability sections (35 minutes each)

In addition, there *may* be

- an unidentified Experimental Section, which would be a third verbal or quantitative section

Occasionally, there *may* be

- an identified optional research section (but *not* if there is an Experimental Section)

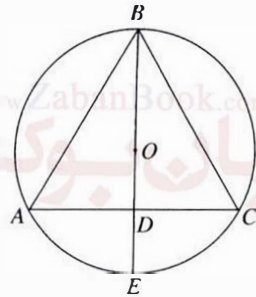
The verbal section measures your ability to use words as tools in reasoning; you are tested not only on the extent of your vocabulary but on your ability to discern the relationships that exist both within written passages and among individual groups of words. The quantitative section measures your ability to use and reason with numbers and mathematical concepts; you are tested not on advanced mathematical theory but on general concepts expected to be part of everyone's academic background. The mathematics covered should be familiar to most students who took at least two years of math in a high school in the United States. The writing section measures your ability to make rational assessments about unfamiliar, fictitious relationships and to logically present your perspective on an issue.



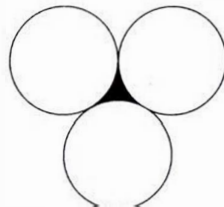
8. If  $a + 2b = 14$  and  $5a + 4b = 16$ , what is the average (arithmetic mean) of  $a$  and  $b$ ?



9. In the figure below, equilateral triangle  $ABC$  is inscribed in circle  $O$ , whose radius is 4. Altitude  $BD$  is extended until it intersects the circle at  $E$ . What is the length of  $DE$ ?

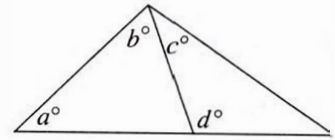


- (A) 1  
(B)  $\sqrt{3}$   
(C) 2  
(D)  $2\sqrt{3}$   
(E)  $4\sqrt{3}$
10. In the figure below, three circles of radius 1 are tangent to one another. What is the area of the shaded region between them?



- (A)  $\frac{\pi}{2} - \sqrt{3}$   
(B) 1.5  
(C)  $\pi - \sqrt{3}$   
(D)  $\sqrt{3} - \frac{\pi}{2}$   
(E)  $2 - \frac{\pi}{2}$

11.



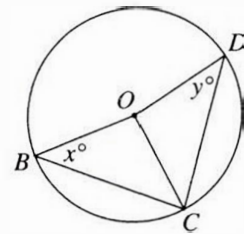
Quantity A

$$a + b$$

Quantity B

$$c + d$$

12.



In circle  $O$ ,  $BC > CD$

Quantity A

$$x$$

Quantity B

$$y$$

13.

Quantity A

The number of  
odd positive  
factors of 30

Quantity B

The number of  
even positive  
factors of 30

QUESTIONS 14–15 REFER TO THE FOLLOWING DEFINITION.

14.

$\{a, b\}$  represents the remainder  
when  $a$  is divided by  $b$ .

Quantity A

$$\{10^3, 3\}$$

Quantity B

$$\{10^5, 5\}$$

15.

$c$  and  $d$  are positive integers with  $c < d$ .

Quantity A

$$\{c, d\}$$

Quantity B

$$\{d, c\}$$