



# GRE® Guide to the Use of Scores

**The GRE®**  
**revised**  
**General Test**

Now with score data  
by intended graduate  
major field

This publication includes:

- Guidelines for the use of GRE® scores
- Concordance information and percentile ranks
- Score interpretation and statistical information

**2012–2013**

[www.ets.org/gre](http://www.ets.org/gre)

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This publication can be downloaded at [www.ets.org/gre/guide](http://www.ets.org/gre/guide).

## The Graduate Record Examinations® Board and Its Committees

The Graduate Record Examinations® (GRE®) Board was formed in 1966 as an independent board and is affiliated with the Association of Graduate Schools (AGS) and the Council of Graduate Schools (CGS). The Board establishes all policies for the GRE Program, which is administered by Educational Testing Service (ETS®). In addition, ETS provides information, technical advice and professional counsel to the Board and develops proposals to achieve the Board's program, research and service goals.

GRE Program activities include testing, research, publishing and advisory services. These services are designed to assist graduate schools/departments and business schools in admissions, guidance and placement, program evaluation, and selection of fellowship recipients, and to assist students with their transition to graduate education.

The GRE Board is mindful of the impact of its testing, information, research and services on students, institutions and graduate education, and it recognizes its obligation to ensure that its policies and activities serve the best interests of the entire graduate education community. The GRE Board strives to equalize higher education opportunities for all students; improve the practices, procedures and quality of graduate education; and promote maximum utilization of human talents and financial resources.

The GRE Board consists of 18 appointed members: four AGS appointees, four CGS appointees and 10 at-large appointees of the Board. In addition, the president of CGS is an ex-officio member of the Board. There are five standing committees of the GRE Board: (1) the Executive Committee, which is empowered to make interim decisions and set the agenda for board meetings; (2) the Research Committee, which establishes long-range planning strategies related to research, considers proposals for new research, monitors the progress of all research projects and allocates designated GRE Board funds for research projects; (3) the Services Committee, which monitors all GRE operating services, maintains a close relationship with graduate students and faculty, and identifies long-range planning strategies involving the development of new services; (4) the Diversity,

Equity, and Inclusion Committee, which considers research proposals and projects, new and ongoing services and long-range planning strategies for students from underrepresented groups; and (5) the Finance Committee, which considers and makes recommendations for action on all GRE budget and finance issues. A list of GRE Board and Committee members is available at [www.ets.org/gre/greboard](http://www.ets.org/gre/greboard).

In addition, the GRE Technical Advisory Committee reviews and discusses technical and measurement issues related to the GRE Program, advises ETS and the GRE Research Committee on the issues, reviews the technical quality of GRE research proposals and reports, and reviews the long-range research plans for the GRE Program.

### TOEFL® Board

In recognition of the fact that a large number of TOEFL® examinees are potential graduate students, a cooperative arrangement for the operation of the program was entered into on July 1, 1973, by ETS, the College Board and the GRE Board. Under this arrangement, a board of 15 members advises ETS on the policies governing the TOEFL program. Both the College Board and the GRE Board appoint three members to the TOEFL Board to represent the interests of their respective constituencies. Other Board members represent such groups as graduate schools of business, community colleges, foreign student advisers, English language teachers and researchers, nonprofit educational exchange agencies and agencies of the federal government.

## Overview of the GRE Tests

GRE test scores can be used by admissions or fellowship panels to supplement undergraduate records and other qualifications for graduate-level study. The scores provide common measures for comparing the qualifications of applicants and aid in the evaluation of grades and recommendations. GRE score recipients may not, without the express, prior, written consent of ETS, use GRE score data for any other purpose, or copy, release, provide access to or otherwise disclose GRE score data to anyone except individuals within their particular organization having a need to know. ETS reserves the right to monitor access and use of the GRE score data by all GRE score recipients.

Institutions of higher education that award graduate degrees and non-degree-granting organizations that award graduate fellowships are eligible for consideration to receive a GRE score recipient code. Institutions and organizations that do not meet either one of these requirements are, in general, not eligible to receive a GRE score recipient code.

ETS reserves the rights, at its sole discretion, to grant or revoke a GRE score recipient code based on eligibility requirements or for any other reason, and to make exceptions to its policy, under special circumstances.

The weight to be given to GRE scores can generally be established by relating what the tests measure to the orientation, curriculum, and aims of a department. Specifically, the content validity of the tests for a graduate department or program should be determined by reviewing each test carefully and then making subjective decisions as to the weight, if any, the scores on GRE tests should receive in relation to other admission factors. Score users should be familiar with the responsibilities of test users outlined in Part III of the Standards for Educational and Psychological Testing (AERA, APA, NCME, 1999).

### *GRE*<sup>®</sup> revised General Test

On August 1, 2011, the *GRE*<sup>®</sup> revised General Test replaced the *GRE*<sup>®</sup> General Test. Like the prior test, the revised test measures the verbal reasoning, quantitative reasoning, critical thinking and analytical writing skills required for success in graduate and business school.

### Content

The Verbal Reasoning measure assesses the ability to analyze and draw conclusions from discourse and reason from incomplete data, understand multiple levels of meaning, such as literal, figurative and author's intent, and summarize text and distinguish major from minor points. In each test edition, there is a balance among the passages across three different subject matter areas: humanities, social sciences (including business) and natural sciences. There is an emphasis on complex reasoning skills, and this measure contains new question types and new computer-enabled tasks.

The Quantitative Reasoning measure assesses basic mathematical concepts of arithmetic, algebra, geometry and data analysis. The section tests the ability to solve problems using mathematical models, understand quantitative information and interpret and analyze quantitative information. There is an emphasis on quantitative reasoning skills and this measure contains new question types and new computer-enabled tasks.

The Analytical Writing measure assesses the ability to articulate and support complex ideas, support ideas with relevant reasons and examples, and examine claims and accompanying evidence. The measure consists of two tasks—Analyze an Issue and Analyze an Argument. The two tasks relate to a broad range

of subjects—from the fine arts and humanities to the social and physical sciences. The measure does not assess specific content knowledge and there is no single best way to respond. The task directions require more focused responses, reducing the possibility of reliance on memorized materials.

Individuals who are interested in reviewing the content of the revised General Test can download the *POWERPREP*® II, version 2.0 software free-of-charge at [www.ets.org/gre/tpresources](http://www.ets.org/gre/tpresources).

## **Administration**

The GRE revised General Test is administered at about 700 ETS-authorized test centers in more than 160 countries. The computer-based GRE revised General Test is administered in a secure testing environment on a continuous basis in most regions of the world. In Mainland China, Hong Kong, Taiwan and Korea, the computer-based test is offered one to three times per month. In areas where the computer-based test is unavailable, paper-based tests are administered up to three times per year (October 20, 2012, November 17, 2012 and February 9, 2013).

The computer-based GRE revised General Test contains one Analytical Writing section with two separately timed tasks, two Verbal Reasoning sections and two Quantitative Reasoning sections. In addition, some questions on the General Test are being pretested for possible use in future editions of the test. These questions are included in an unidentified unscored section of the test. In other instances, other questions may appear in identified research sections. Answers to pretest and research questions are not used in the calculation of scores for the test. Total testing time is approximately 3 hours and 45 minutes.

The Verbal Reasoning and Quantitative Reasoning measures of the computer-based revised General Test are adaptive at the section level. This test design allows test takers to move freely about within any timed section, allowing them to use more of their own personal test-taking strategies and providing a friendlier test-taking experience.

The Verbal Reasoning and Quantitative Reasoning measures each have two operational sections. Overall, the first operational section is of average difficulty. The second operational section of each of the measures is administered based on an examinee's overall performance on the first section of that measure.

An on-screen calculator is provided in the Quantitative Reasoning measure to reduce the emphasis on computation.

In the Analytical Writing section of the computer-based revised General Test, the GRE Program uses an elementary word processor developed by ETS so that individuals familiar with specific commercial word processing software do not have an advantage or disadvantage. This software contains the following functionalities: inserting text, deleting text, cut and paste and undoing the previous action. Tools such as a spelling checker and grammar checker are not available in the ETS software, in large part to maintain fairness with those examinees who handwrite their essays during the paper-based revised General Test.

The paper-based GRE revised General Test contains one Analytical Writing section with two separately timed tasks, two Verbal Reasoning sections and two Quantitative Reasoning sections. Total testing time is approximately 3 hours and 30 minutes. Test takers write their answers in test books rather than on answer sheets. The content of the paper-based test is the same as is administered in the computer-based test. A calculator is provided at the test center for use on the Quantitative Reasoning measure to reduce the emphasis on computation.

## **How the Sections of the GRE revised General Test are Scored**

### **Verbal and Quantitative Sections**

Scores on the Verbal Reasoning and Quantitative Reasoning measures depend on performance on the questions given and on the number of questions answered in the time allotted.

The Verbal Reasoning and Quantitative Reasoning measures of the computer-based GRE revised General Test are section-level adaptive. This means the computer selects the second section of a measure based on the performance on the first section. Within each section, all questions contribute equally to the final score. For each of the two measures, a raw score is computed. The raw score is the number of questions answered correctly.

The raw score is converted to a scaled score through a process known as equating. The equating process accounts for minor variations in difficulty among the different test editions as well as differences in difficulty among individuals' tests introduced by the section-level adaptation. Thus a given scaled score for a particular measure reflects the same level of performance regardless of which second section was selected and when the test was taken.

For the Verbal Reasoning and Quantitative Reasoning measures of the paper-based GRE revised General Test, the scoring is essentially a two-step process. First a raw score is computed for each measure. The raw score for each measure is the number of questions answered correctly in the two sections for that measure.

The Verbal Reasoning and Quantitative Reasoning raw scores are then converted to scaled scores through a process known as equating. The equating process accounts for minor variations in difficulty among the different test editions. Thus, a given scaled score for a particular measure reflects the same level of performance regardless of which edition of the test was taken.

### **Analytical Writing Section**

For the Analytical Writing section, each essay receives a score from two trained readers, using a six-point holistic scale. In holistic scoring, readers are trained to assign scores on the basis of the overall quality of an essay in response to the assigned task. If the two assigned scores differ by more than one point on the scale, the discrepancy is adjudicated by a third GRE reader. Otherwise, the two scores on each essay are averaged.

If an essay response is provided for only one of the two writing tasks, the task for which no essay response is provided will receive a score of zero.

The final scores on the two essays are then averaged and rounded to the nearest half-point interval on the 0-6 score scale. A single score is reported for the Analytical Writing measure. The primary emphasis in scoring the Analytical Writing section is on examinees' critical thinking and analytical writing skills rather than on grammar and mechanics. Scoring guides for each essay task are available at [www.ets.org/gre/institution/awguides](http://www.ets.org/gre/institution/awguides). Score Level Descriptions that describe, for each score level, the overall quality of analytical writing demonstrated across both of the Analytical Writing tasks are presented on page 34.

During the scoring process, essay responses on the Analytical Writing section are reviewed by ETS essay-similarity-detection software and by experienced essay readers.

The GRE Program plans to implement e-rater<sup>®</sup> scoring technology in the scoring process for the Analytical Writing measure of the computer-based GRE revised General Test. The e-rater scoring engine is a computerized natural language-processing program developed by ETS. When e-rater scoring is implemented, information about it will be available on the GRE website at [www.ets.org/gre/institutions/scores/how](http://www.ets.org/gre/institutions/scores/how).

## **Subject Tests**

### **Content**

The Subject Tests are paper-based tests in eight subject areas. Subject Tests measure achievement in specific subject areas and assume undergraduate majors or extensive background in those disciplines. Brief descriptions of the Subject Tests follow:

### **Biochemistry, Cell and Molecular Biology**

The test consists of approximately 175 questions and is intended for students who are interested in graduate programs in biochemistry, cell biology and molecular biology, along with related programs such as microbiology and genetics. The questions are distributed among three subscore areas: Biochemistry (36%), Cell Biology (28%) and Molecular Biology and Genetics (36%).

### **Biology**

The test consists of approximately 194 questions that are distributed among three subscore areas: Cellular and Molecular Biology, Organismal Biology and Ecology and Evolution.

### **Chemistry**

The test consists of approximately 130 questions designed to cover much of the content of the chemistry courses completed by students before the middle of the senior collegiate year. The questions are classified approximately as follows: analytical chemistry (15%), inorganic chemistry (25%), organic chemistry (30%) and physical chemistry (30%).

### **Computer Science**

The test consists of approximately 70 questions and is intended for students who plan to seek a graduate degree in computer science and who have taken courses in computer science at least to the level of an undergraduate major in computer science. The questions are classified approximately as follows: software systems and methodology (40%), computer organization and architecture (15%), theory and mathematical background (40%) and other topics, such as artificial intelligence, cryptography and social issues (5%).

### **Literature in English**

The test consists of approximately 230 questions on literature in English from the British Isles, the United States and other countries. It also contains a few questions on major works,

including the Bible, in translation. Factual questions test a student's knowledge of writers typically studied in college courses. Interpretive questions test a student's ability to read passages of poetry, drama, fiction and nonfiction prose perceptively; such questions may address meaning, use of language, form and structure, literary techniques and various aspects of style. The questions are classified as follows: literary analysis (40–55%), identification (15–20%), cultural and historical contexts (20–25%), history and theory of literary criticism (10–15%). In addition, the literary-historical scope of the test is as follows: continental, classical and comparative literature through 1925 (5–10%); British literature to 1660, including Milton (25–30%); British literature 1660–1925 (25–35%); American literature through 1925 (15–25%); American, British and World literatures after 1925 (20–30%).

### **Mathematics**

The test consists of approximately 66 questions and is intended to measure both the knowledge of the content of undergraduate mathematics courses for mathematics majors and the mathematical abilities traditionally expected of those who intend to seek a graduate degree in mathematics. In addition to the usual sequence of elementary calculus courses, the examinee should have had mathematics-major courses in abstract algebra, linear algebra and real analysis that require students to demonstrate the ability to prove theorems and create counterexamples. The questions are classified approximately as follows: calculus (50%), algebra (25%) and other topics (25%). The other topics may include: discrete mathematics and algorithmic processes, differential equations, topology and modern geometry, complex analysis, probability and statistics, logic and foundations and numerical analysis.

### **Physics**

The test consists of approximately 100 questions, most of which relate to the first three years of undergraduate physics. Topics include



classical mechanics (20%), electromagnetism (18%), atomic physics (10%), optics and wave phenomena (9%), quantum mechanics (12%), thermodynamics and statistical mechanics (10%), special relativity (6%) and laboratory methods (6%). The remaining 9% of the test covers advanced topics such as nuclear and particle physics, condensed matter physics and astrophysics.

### **Psychology**

The test consists of approximately 205 questions drawn from courses most commonly offered at the undergraduate level. Most of the questions are distributed between two subscore areas: Experimental Psychology (40%), including learning, language, memory, thinking, sensation and perception and physiological/behavioral neuroscience; and Social Psychology (43%), including clinical and abnormal, lifespan development, personality and social. The remaining 17% of the questions test other topics, predominately measurement and methodology, and also history, industrial/organizational and educational psychology. The test's total score includes the questions in all three categories.

Individuals who are interested in reviewing the content of a particular Subject Test can download a copy of the corresponding Subject Test practice book free-of-charge at [www.ets.org/gre/subject/prepare](http://www.ets.org/gre/subject/prepare).

### **Administration**

The Subject Tests are offered at paper-based administrations up to three times a year at test centers throughout the world (October 13, 2012, November 10, 2012, and April 20, 2013).

### **How the GRE Subject Tests are Scored**

The Subject Tests scales currently have a possible range of 200 to 990 in 10-point increments, but each of the individual test scales occupies only a portion of this range. The raw scores for the Subject Tests are “formula” scores. These scores are equal to the number of questions answered correctly minus one-fourth the number of questions answered incorrectly. Formula scoring is designed to discourage random guessing.

The formula score is then converted to a scaled score through a process known as equating. The equating process accounts for minor variations in difficulty among the different test editions.

Every Subject Test yields a total score. The Biochemistry, Cell and Molecular Biology; Biology; and Psychology Tests also yield subscores on a 20-99 score scale, in one-point increments, although the range for any particular Subject Test subscore is usually smaller. Subscores enable assessment of strengths and weaknesses and can be used for guidance and placement purposes.



# Guidelines for the Use of GRE Scores<sup>1</sup>

The GRE Board has adopted a statement regarding fair and appropriate use of GRE scores. This statement can be found on the GRE website at [www.ets.org/gre/guidelines](http://www.ets.org/gre/guidelines).

## Introduction

These guidelines have been adopted by the Graduate Record Examinations (GRE) Board to provide information about the appropriate use of GRE test scores for those who use the scores in graduate admissions and fellowship selection processes and for guidance and counseling for graduate study. They are also intended to protect applicants from unfair decisions that may result from inappropriate uses of scores. Adherence to the guidelines is important.

The GRE General Test and Subject Tests are designed to assess academic knowledge and skills relevant to graduate study. As measures with known statistical properties and high-quality technical characteristics, the scores from these tests, when used properly, can improve graduate admissions and fellowship selection processes. The research section of the GRE website includes research reports that provide validity evidence for the use of GRE scores in graduate admissions and fellowship selection processes. The research reports can be found at [www.ets.org/gre/research](http://www.ets.org/gre/research).

Any GRE test, however, has two primary limitations: (1) it does not and cannot measure all the qualities that are important in predicting success in graduate study or in confirming undergraduate achievement and (2) it is an inexact measure; consequently, the standard error of measurement of the difference between test scores can serve as a reliable indication of real differences in applicants' academic knowledge and developed abilities.

Although limitations and cautions apply to all admissions measures, the GRE Board has a particular obligation to inform users of the appropriate uses of GRE scores and to identify and try to rectify instances of misuse. To this end, the following policies and guidelines are available to all GRE examinees, institutions, and organizations that are users of GRE scores.

## Policies

In recognition of its obligation to ensure the appropriate use of GRE scores, the GRE Board has developed policies designed to make score reports available only to approved users, to encourage these score users to become knowledgeable about the validity of the test score uses and interpretations, to protect the confidentiality of test takers' scores and to follow up on cases of possible misuse of scores. The policies are discussed below.

**Score users.** Undergraduate and graduate institutions and non-degree-granting organizations that award graduate fellowships are eligible for consideration as score users. The GRE Board retains the right to make exceptions to this policy in special circumstances.

**Validity.** The general appropriateness of using GRE test scores for graduate admissions, fellowship selection and guidance and counseling for graduate study has been established by research studies carried out by ETS and others. GRE scores may be appropriate for some other purposes, but it is important for the user to validate their use for those purposes. To assist departments and programs in evaluating proposed uses, these guidelines include information about appropriate uses and uses without supporting validity evidence.

**Confidentiality.** GRE scores, whether those of an individual or aggregated for an institution, are confidential and can be released only by authorization of the individual or institution or by compulsion of legal process.

**Use of reportable scores.** GRE test scores are part of examinees' reportable history for five years after the testing year in which they tested (July 1 – June 30). As of July 1, 2012, GRE scores earned July 1, 2007, to present will be available in examinees' reportable GRE score history. The five-year policy was developed to

support the validity of GRE test scores. Older scores may not reflect an applicant's current ability in verbal reasoning, quantitative reasoning, analytical writing, and critical thinking. Applicant's experiences over a long period of time (more than five years) between testing and applying to a graduate or business program, may impact their ability and their scores in these areas may have changed. Only official reportable scores should be used in the admissions and fellowship selection processes.

**Use of scores in aggregated form.** Graduate departments and programs are urged to report GRE scores in ranges, such as the highest and lowest scores of the middle 50 percent of the admitted applicants and to avoid use of a precise mean or median. Presenting information by score ranges emphasizes the diversity of individual scores for any one graduate department or program, and also makes clear the overlap of scores among graduate departments and programs.

Use of GRE scores in aggregated form as a measure for ranking or rating graduate programs, institutions, university systems or states is strongly discouraged except when the scores are used as one indicator among several appropriate indicators of educational quality.

**Use of concordance scores.** Concordance tables are available at [www.ets.org/gre/concordance](http://www.ets.org/gre/concordance) to help score users transition from using Verbal Reasoning and Quantitative Reasoning scores on the prior 200–800 score scale to using scores on the new 130–170 score scale, and to facilitate the comparison of scores of individuals who took the General Test in the prior format with those who take the revised General Test. The concordance tables show the relationship between the score scales of the General Test in the prior format and the revised General Test.

There are separate tables for the Verbal Reasoning and Quantitative Reasoning measures. Each of the tables provides a point

estimate of the corresponding score on the scale of the revised General Test for each score on the prior 200–800 scale. Also included are the most recent percentile ranks associated with each new scale score.

**Encouragement of appropriate use and investigation of reported misuse.** All users of GRE scores have an obligation to use the scores in accordance with published GRE Board policies and guidelines. Departments and programs have a responsibility to ensure that all users of GRE scores are aware of the GRE Board score-use policies and guidelines and to monitor the use of the scores, correcting instances of misuse when they are identified. The GRE Program staff is available to assist institutions in resolving score-misuse issues.

## Guidelines

### 1. Use Multiple Criteria

Regardless of the decision to be made, multiple sources of information should be used to ensure fairness and to balance the limitations of any single measure of knowledge, skills or abilities. These sources may include undergraduate grade point average, letters of recommendation, personal statement, samples of academic work and professional experience related to proposed graduate study. A cut-off score (i.e., a minimum score) should never be used as the only criterion for denial of admission or awarding of a fellowship.

Use of multiple criteria is particularly important when using GRE scores to assess the abilities of educationally disadvantaged applicants, applicants whose primary language is not English and applicants who are returning to school after an extended absence. Score users are urged to become familiar with factors affecting score interpretation for these groups as discussed in this publication.

### 2. Accept Only Official GRE Score Reports

The only official reports of GRE scores are those issued by ETS and sent directly to

approved institutions and organizations designated by the examinees and to vendors the score recipients might designate to process the scores they receive. Scores obtained from other sources should not be accepted. If there is a question about the authenticity of a score report, the question should be referred to ETS. ETS will verify whether an official report was issued and the accuracy of the scores.

**3. Conduct Validity Studies**

Departments and programs using GRE scores for graduate admissions, fellowship awards, and guidance and counseling for graduate study are encouraged to collect validity information by conducting their own studies. The GRE Program staff will provide advice on the design of appropriate validation studies without charge.

**4. Maintain Confidentiality of GRE Scores**

All GRE score users should be aware of the confidential nature of the scores and agree to maintain their confidentiality. Institutional policies should be developed to ensure that confidentiality is maintained. For example, GRE scores should not be placed on documents sent outside the institution.

**5. Consider Verbal Reasoning, Quantitative Reasoning and Analytical Writing Scores as Three Separate and Independent Measures**

Since the level of skills in verbal reasoning, quantitative reasoning and analytical writing abilities required for success in graduate and business schools varies by field or department, Verbal Reasoning, Quantitative Reasoning and Analytical Writing scores should not be combined into a single score. To understand factors related to combining scores, view the GRE DataViews article, “Why not 1000?,” at [www.ets.org/gre/institutions/about/downloads](http://www.ets.org/gre/institutions/about/downloads).

**6. Conduct Reviews of Subject Test Content**

Although each Subject Test is developed and updated regularly by a committee of examiners who are actively teaching in the field, the match between the test and the curriculum in a given department may not be exact and may vary over time. Departments are encouraged to periodically

review the test content description in order to verify the appropriateness of the content for their programs. The free practice books can be downloaded at [www.ets.org/gre/subject/prepare](http://www.ets.org/gre/subject/prepare).

**7. Avoid Decisions Based on Small Score Differences**

Small differences in GRE scores (as defined by the standard error of measurement [SEM] for score differences) should not be used to make distinctions among examinees. SEMs vary by test and are available in this publication.

**8. Use the Appropriate Percentile Ranks when Comparing Candidates**

Percentile ranks are provided on score reports and can be used to compare examinees’ relative performance among the measures. Percentile ranks indicate the percent of examinees in a group who obtained scores below a specified score. The percentile ranks are generally based on previous GRE examinees from a recent three-year period.<sup>1</sup> Percentile ranks should be compared only if they are based on the same reference population. Percentile ranks are updated annually and are available at [www.ets.org/gre/percentile](http://www.ets.org/gre/percentile).

**9. Do Not Compare Scores from Different Subject Tests**

Subject Test scores should be compared only with other scores on the same Subject Tests (for example, a 680 on the Physics Test is not equivalent to a 680 on the Chemistry Test). Percentile ranks should be compared only if they are based on the same reference population.

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<sup>1</sup>The percentile ranks for the revised General Test for the 2012-13 testing year are based on the scores of examinees who tested between August 1, 2011, and April 30, 2012. The percentile ranks for the Subject Tests are based on a three-year cohort of examinees who tested between July 1, 2008, and June 30, 2011. In future years as data accumulate, the percentile ranks for the revised General Test will return to using a three-year cohort.

## **10. Transition to the New Verbal Reasoning and Quantitative Reasoning Score Scales**

Departments and programs are encouraged to transition from using Verbal Reasoning and Quantitative Reasoning scores on the prior 200–800 score scale to using scores on the new 130–170 score scale. The estimated Verbal Reasoning and Quantitative Reasoning scores based on the concordance, and the actual scores from examinees who took the revised General Test on August 1, 2011 or later can be used to facilitate the transition and score interpretation.

## **11. Use Concordance Information to Transition to the New Verbal Reasoning and Quantitative Reasoning Score Scales**

The concordance tables may be appropriately used for translating an institution’s historical guidelines for GRE Verbal Reasoning and Quantitative Reasoning scores on the prior 200–800 scale to the new 130–170 scale. Using the tables in this way should result in the selection of approximately the same proportion of examinees. Note that the scores in the concordance tables are approximations, not equivalences. An examinee who has a particular score on the prior GRE scale would not necessarily obtain the concorded score on the new scale if he/she were to take the revised General Test.

## **Normally Appropriate Uses and Uses Without Supporting Validity Evidence**

The suitability of a GRE test for a particular use should be explicitly examined before using test scores for that purpose. The following lists of appropriate uses of GRE scores and identified GRE scores uses without supporting validity evidence are based on the policies and guidelines outlined above. The lists are meant to be illustrative, not exhaustive, in nature. Uses other than those listed below should be discussed in advance with GRE Program staff to determine their appropriateness.

If a use other than those appropriate uses listed below is contemplated, it will be important for the user to validate the use of scores for that purpose. The GRE Program staff will provide advice on the design of such validity studies free of charge.

Subject Test scores may be considered for the award of undergraduate credit only in the field of the test and only when a rationale has been developed that discusses the relationship between GRE Subject Test scores and the amount of credit awarded. This rationale must be made available to users of any transcripts that contain credit awarded in this manner.

## **Appropriate Uses**

Provided all applicable guidelines are adhered to, particularly the use of multiple sources of information in the decision-making process, General Test and Subject Test scores are suitable for the following uses:

1. selection of applicants for admission to graduate school
2. selection of graduate fellowship applicants for awards
3. guidance and counseling for graduate study

## **Uses Without Supporting Validity Evidence**

Uses and interpretations of General Test and Subject Test scores without supporting validity evidence are inappropriate, including the following:

1. Requirement of a minimum score on the General Test for conferral of a degree, credit-by-examination, advancement to candidacy or any noneducational purpose
2. Requirement of scores on the General Test or Subject Tests for employment decisions, including hiring, salary, promotion, tenure or retention
3. Use of any measure involving a summation of Verbal Reasoning, Quantitative Reasoning and Analytical Writing scores or any subset of these scores

4. Use of the Verbal Reasoning, Quantitative Reasoning or Analytical Writing measures as an outcomes assessment.

Comments, complaints, inquiries and suggestions about the use of GRE test scores are welcome. To contact the GRE Program office, see the inside front cover.

## Reporting and Using GRE Scores

### Score Reporting Policies

Beginning in July 2012, with the introduction of the *ScoreSelect*<sup>SM</sup> option, test takers who retake a GRE test can decide which GRE scores to send to designated institutions. This option is available for both the GRE General Test and the GRE Subject Tests and can be used by anyone with reportable scores from the last five years. Scores for a test administration must be reported in their entirety. Institutions will receive score reports that show the scores that test takers selected to send to them. There will be no special notations to indicate whether or not other GRE tests have been taken. For more information, visit

[www.ets.org/gre/institutions/scoreselect](http://www.ets.org/gre/institutions/scoreselect).

GRE score reporting policies have been adopted by the GRE Board to encourage the appropriate use of GRE scores and to protect the right of individuals to control the distribution of their own score reports. Current GRE Board policy states that scores are reportable for five years following the testing year in which the individual tested. Departments and programs should not use scores that are older than five years due to changes in ability that may occur over extended periods of time.

Score reports are sent to examinees and to institutions of higher education granting the baccalaureate or higher degrees, to approved graduate fellowship-granting sponsors designated by the test takers and to vendors the score recipients might designate to process the scores they receive.

Score reports for the computer-based GRE revised General Test are sent approximately 10–15 days after the test date. Score reports for the paper-based GRE revised General Test and Subject Tests are sent approximately six weeks after the test date.

With the new *ScoreSelect* option, if a test taker has taken one or more tests within the five-

year period previous to the 2012–13 testing year (July 1, 2007, to June 30, 2012), the test taker can send scores from their most recent, all or any specific test administration(s). However, scores for a test administration must be reported in their entirety. Absences are not reported. Examinee score reports contain a cumulative record of the examinee's reportable history.

Percentile ranks shown on score reports are based on the performance of the current reference group for each test regardless of when the scores were earned. The percentile rank for any score may vary over the years depending on the scores of the group with which the score is compared. Thus, when two or more applicants are being compared, the comparison should be made on the basis of their respective scores; if percentile ranks are considered, they should all be based on the most recent percentile rank tables available at [www.ets.org/gre/percentile](http://www.ets.org/gre/percentile).

Score reports for individuals who tested prior to August 1, 2011, contain estimated Verbal Reasoning and Quantitative Reasoning scores on the new 130–170 score scale in addition to the Verbal Reasoning and Quantitative Reasoning scores earned on the prior 200–800 score scale. This concordance information, which is also available at [www.ets.org/gre/concordance](http://www.ets.org/gre/concordance), allows score users to compare individuals who took the GRE revised General Test with individuals who took the GRE General Test prior to August 2011.

### Revising Reported Scores

ETS routinely follows extensive review and quality control procedures to detect and avoid flawed questions and consequent errors in scoring. Nonetheless, occasionally an error is discovered after scores have been reported. Whenever this happens, the specific circumstances are reviewed carefully, and a



decision is made about how best to take corrective action that is fairest to all concerned. Revised scores reported during the current year are reported directly to graduate schools, business schools and graduate fellowship sponsors as well as to students because such scores are likely to be part of current applications for admission. Revisions to scores reported in the previous five years are sent to the affected students, who may request that ETS send the revised scores to any graduate schools or fellowship sponsors still considering their applications.

## **Confidentiality and Authenticity of GRE Scores**

GRE scores are confidential and are not to be released by an institutional recipient without the explicit permission of the examinee. **GRE scores are not to be included in academic transcripts.** Dissemination of score records should be kept at a minimum, and all staff who have access to them should be explicitly advised of the confidential nature of the scores.

**To ensure the authenticity of scores, the GRE Board urges that institutions accept only official reports of GRE scores received directly from ETS.**

The GRE Program recognizes the right of institutions as well as individuals to privacy with regard to information supplied by and about them. ETS therefore safeguards from unauthorized disclosure all information stored in its data or research files. Information about an institution (identified by name) will be released only in a manner consistent with a prior agreement, or with the consent of the institution.

## **GRE Scores and Graduate Admissions**

Many factors play a role in an applicant's admissibility and expectation of success as a graduate student. GRE scores are only one element in this total picture and should be considered along with other data. The GRE Board believes that GRE scores should never be the sole basis for an admissions decision and that it is inadvisable to reject an applicant solely on the basis of GRE scores. A cutoff score below which every applicant is categorically

rejected without consideration of any other information should not be used.

Scores on the GRE General Test permit comparison of one applicant to a graduate school or business school with other applicants for the same program at that institution as well as with everyone else who took the test. The GRE Subject Tests provide an additional measure of applicants' preparation for graduate school. For certain Subject Tests, subscores provide further information for consideration. These subscores, which reflect a test taker's general strengths and weaknesses in the major areas on which the total score is based, aid in the interpretation of the total score. Often the subscores can suggest areas in which the test taker may require extra work. A low subscore, however, may be the result of lack of exposure to a particular subfield. As a result, subscores should always be reviewed in relation to the applicant's undergraduate history.

## **Protecting the Integrity of GRE Tests**

ETS employs a three-pronged approach of prevention, detection, and communication to ensure the validity of test scores.

ETS has procedures in place to prevent testing and scoring fraud. These can be seen from the test design right through to the score reporting process, including using the highest standards to create and deliver test content, establishing secure test centers, ensuring the training of test center administrators, instituting and enforcing test-taker rules and requirements, and maintaining the quality of scoring and score reporting through extensive training of GRE raters, as well as security measures implemented for the paper score reports.

In addition, ETS is vigilant in identifying and taking action against fraudulent activity. All reported incidents of fraud are taken seriously and investigated thoroughly by the ETS Office of Testing Integrity. Statistical analysis methods are also used to help ensure that valid scores are reported. The ETS Statistical Analysis team monitors score trends by test center, country and region and reports any suspicious anomalies to the Office of Testing Integrity for review. In terms of communication, ETS will continue to inform institutions that are designated score

recipients when scores have been cancelled. In addition, any concerns regarding test results can be reported to ETS and will be investigated.

### **Cancellation of Scores at ETS**

ETS strives to report scores that accurately reflect the performance of every test taker. Accordingly, ETS's standards and procedures for administering tests have two primary goals: giving test takers equivalent opportunities to demonstrate their abilities and preventing any test takers from gaining an unfair advantage over others. To promote these objectives, ETS reserves the right to cancel any test score when, in ETS's judgment, a testing irregularity occurs; there is an apparent discrepancy in a test taker's identification; the test taker engages in misconduct or plagiarism, copying or communication occurs or the score is invalid for another reason. In addition, if ETS has information that ETS considers sufficient to indicate that a test taker has engaged in any activity that affects score validity, such as

having someone else take the test for them, obtaining test questions or answers via the Internet, email, text messaging or postings, it will result in score cancellation and/or any other action ETS deems appropriate, including banning the test taker from future tests. Test takers must agree to these terms and conditions when they register for the test and on test day. When, for any of the above reasons, ETS cancels a test score that has already been reported, it notifies score recipients that the score has been canceled.

ETS continues to develop best practices and create new technologies to prevent and detect fraud. We will continue to keep institutions informed whenever improper behavior is discovered. ETS test security policies are rooted in the most stringent U.S. legal statutes that have been in place for more than 30 years. These laws help guide the practices that ensure both the fairness and validity of our test scores.

For additional security questions, or concerns, please call the Security Hotline at 1-800-750-6991 (United States) or 1-609-406-5430 (all other locations).

## **Considerations in Score Interpretation**

GRE test scores should be used to supplement the information provided in a person's application, such as undergraduate record and letters of recommendation. Officials responsible for admissions at each institution must determine the significance of GRE scores for each applicant. Particular attention must be paid to the use of GRE scores for individuals described below. Experience of departments and programs should continue to be the best guide to interpretation of GRE test scores in these instances. GRE research reports on the topics listed below can be downloaded at [www.ets.org/gre/research](http://www.ets.org/gre/research).

### **Repeat Test Takers**

It may be to a test-taker's advantage to take a GRE test more than once if they don't think their scores accurately reflect their abilities. Those considering repeating a test are advised that large score increases are unusual, and for some test takers, scores will go down.

There are several ways in which graduate departments and programs can judge multiple scores for an individual (e.g., use most recent score, use highest score). Whatever approach is adopted, it should be used consistently with all applicants. In cases where an applicant has scores from both the prior General Test and the revised General Test, the GRE Program advises using the scores from the revised General Test.



## Test Takers from Underrepresented Groups

GRE scores, like those on similar standardized tests, cannot completely represent the potential of any person, nor can they alone reflect an individual's chances of long-term success in an academic environment. It should be remembered that the GRE tests provide measures of certain types of developed abilities and achievement, reflecting educational and cultural experience over a long period. Special care is required in interpreting the GRE scores of students who may have had educational and cultural experiences somewhat different from those of the traditional majority.

Research indicates that GRE scores are valid predictors of success in graduate school for all students. Research reports related to the predictive validity of GRE test scores can be found at [www.ets.org/gre/research](http://www.ets.org/gre/research). Available samples of students from underrepresented groups, however, have been very small. Information about specific research regarding test scores and underrepresented groups can be found in the publication entitled *Factors That Can Influence Performance on the GRE General Test* at [www.ets.org/gre/factors](http://www.ets.org/gre/factors).

## Test Takers Who are Nonnative English Speakers

Various factors complicate the interpretation of GRE scores for international students. The GRE tests measure skills important for graduate education where the language of instruction is English. Obviously, an understanding of English is important since lack of fluency in English may affect test performance.

ETS offers tests developed specifically for testing the English language proficiency of nonnative English speakers. The most widely accepted English language proficiency test is the Test of English as a Foreign Language, commonly known as the TOEFL test. The primary purpose of the TOEFL test is to measure the English proficiency of people who are nonnative speakers of English and want to study at colleges and universities where English is the language of instruction.

Score users should be aware that the writing measure on the *TOEFL iBT*<sup>®</sup> test and the GRE Analytical Writing measure are very different. The TOEFL iBT writing measure is not designed to measure higher levels of thinking and analytical writing. Therefore the scores on the two tests are not comparable. However, because the TOEFL iBT test emphasizes both fundamental writing skills as well as the ability to organize and convey in writing information that has been understood from spoken and written text, the TOEFL scores can supplement an Analytical Writing score by helping faculty determine whether a low score on the GRE Analytical Writing measure is due to lack of familiarity with English or lack of ability to produce and analyze logical arguments. The *TWE*<sup>®</sup> test, which is administered as part of the paper-based TOEFL test, focuses on the command of English vocabulary, grammar, spelling and syntax. This score can also supplement the Analytical Writing score in determining whether a low score on the GRE Analytical Writing measure is due to lack of familiarity with English or lack of ability to produce and analyze logical arguments. Additional information regarding TOEFL test scores is available at [www.ets.org/toefl](http://www.ets.org/toefl).

## Test Takers with Disabilities

ETS makes special testing arrangements for individuals who have currently documented visual, physical, hearing or learning disabilities and are unable to take the tests under standard conditions. The tests are administered in a nonstandard manner chosen to minimize any adverse effect of the examinee's disability upon test performance and to help ensure that, insofar as possible, the resulting scores represent the examinee's educational achievement.

Depending on the nature and extent of the disability, an examinee's scores may not fully reflect his or her educational achievement and, because there are so few disabled persons taking GRE tests and their circumstances vary so widely, it has not been possible to provide special interpretive data for these examinees. Therefore, graduate schools should seriously consider waiving GRE requirements for applicants with certain disabilities.

## Essay Responses on the Analytical Writing Section

Criteria for evaluating Analytical Writing essay responses emphasize critical thinking skills (the ability to reason, assemble evidence to develop a position, and communicate complex ideas) more heavily than an examinee's control of the fine points of grammar or the mechanics of writing (e.g., spelling).

An Analytical Writing essay response should be considered a rough first draft since examinees do not have sufficient time to revise their essays during the test. Examinees also do not have dictionaries or spell-checking or grammar-checking software available to them.

Essay responses at paper-based administrations must be handwritten; essay responses at computer-based administrations must be word processed. Typed essays often appear shorter than handwritten essays; handwritten essays can appear to be more heavily revised than typed essays. GRE readers are trained to evaluate the content of essays and to give the same score to a handwritten essay as they would to its typed version.

Essay topics are administered under standardized conditions; essay scores can provide important information above and beyond any academic writing samples that may be required (e.g., papers from a course). Validity research has shown that the Analytical Writing score is correlated with academic writing more highly than is the personal statement (Powers & Fowles, 1996).

Test takers whose native language is not English naturally find the Analytical Writing section more challenging, on average, than native speakers of English. Steps have already been taken to ensure that these performance differences are not due to differences on the cross-cultural accessibility of the prompts. Special fairness reviews occur for all prompts to ensure that the content and tasks are clear and accessible for all groups of test takers, including students whose native language is not English. In addition, scorers are trained to focus on the analytical logic of the essays more than on spelling, grammar or syntax. The mechanics of writing are weighed in their ratings only to the extent that these impede clarity of meaning. Since the Analytical Writing measure is tapping into different skills than the Verbal Reasoning measure, it may not be surprising that the strength of performance of examinees whose native language is not English differs between the Analytical Writing measure and the Verbal Reasoning measure. Given that graduate faculty have indicated that analytical writing is an important component of work in most graduate schools, including the Analytical Writing measure, should increase the validity of the General Test.

The ability of students whose native language is not English to write in English may be affected not only by their language capability but also by their prior experience with the kinds of critical writing tasks in the test. Where educational systems do not stress these skills, performance may not reflect the applicant's ability to learn these skills in a graduate setting.

## Score Interpretation and Statistical Information

### Verbal Reasoning and Quantitative Reasoning Sections of the GRE revised General Test

- Verbal Reasoning and Quantitative Reasoning scores range from 130–170, in one-point increments. If no answers are given for a measure, an NS (No Score) is reported for that measure. Examinees who received an NS are excluded from the data reported in the accompanying tables.
- The scales for the revised General Test Verbal Reasoning and Quantitative Reasoning measures were developed based on the performance of 146,504 examinees who tested between August 1, 2011, and October 2, 2011. While this group was reasonably representative of the GRE population’s demographic characteristics, they tended to be slightly more able than the overall population, which is typical with the launch of a new test. Therefore, when the scales were set, the scale means were adjusted so that the full year mean for both measures would be equal to 150 and the standard deviation equal to 8.75.
- Scores from the different measures should not be directly compared because each measure was scaled separately. Percentile ranks can be used to compare relative performance among the measures. For the 2012-13 testing year, these percentile ranks are based on the scores of all examinees who tested between August 1, 2011, and April 30, 2012.
- Because the Verbal Reasoning and Quantitative Reasoning measures are multi-stage computer-adaptive tests, the reliability and standard error of measurement are theoretical estimates based on item response theory. The final estimates for the reliability and standard errors of measurement are an average based on a large number of multi-stage tests that have been administered. (See Table 5.)
- The standard errors of measurement (SEM) of score differences presented in Table 5 should be taken into account when comparing examinees’ scores on the same measure. Score recipients should avoid making decisions based on small score differences.
- The conditional standard errors of measurement (CSEM) presented in Table 6A reflect the variation in observed scores at particular points on the score scale. Like the SEM, they can be used to compute a confidence band around an examinee’s score. Such a band would help to determine the score range in which the examinee’s “true”<sup>2</sup> score probably lies. Unlike the SEM, the CSEM takes the variation in measurement precision across the score scale into account. The CSEM of score differences scores in Table 6B can be used to evaluate the difference between the scores from two examinees.
- Because the Verbal Reasoning and Quantitative Reasoning measures have new scales, a concordance relationship was estimated between the prior 200–800 score scales and new 130-170 score scales. Effective November 1, 2011, score reports include a concordance estimate on the new scale for each score on the prior scale. Since the scale of the prior GRE General Test has 61 points, and the scale of the GRE revised General Test has 41 points, in some instances the concordance tables will have more than one score on the prior scale concordced to a single score on the new 130–170 score scale. In addition, concordance tables for the Verbal Reasoning and Quantitative Reasoning measures are provided in this publication and at [www.ets.org/gre/concordance](http://www.ets.org/gre/concordance) to enable

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<sup>2</sup> A “true” score is a score entirely free from the errors of measurement. It is defined as the average of the scores an examinee would get over some very large set of theoretically possible conditions of testing.

users to locate a concorded estimate on the new scale for each score on the prior GRE score scale. Bear in mind that concordance relationships are estimates. They can be useful in this transition period to help institutions make admissions decisions.

- Score users should use special care in evaluating test takers who received a Quantitative Reasoning score at the top end of the prior 200–800 score scale. Now, with the new 130–170 score scale, we can provide more differentiation for higher ability test takers. However, test takers who took the prior test and received an 800 on the Quantitative Reasoning measure, received the highest score possible that they were able to earn on the measure. Therefore, this information should be considered when making admissions decisions.
- Score users should remember that there is a certain amount of error associated with any estimated relationship between two tests. The concordance tables can be used by institutions to transform their historical guidelines for GRE Verbal Reasoning and Quantitative Reasoning scores on the prior 200–800 scale to the new 130–170 scale. Used in this manner, the concordance tables should help an institution identify a similar cohort of individuals for consideration for admission.
- Although each GRE revised General Test measure assesses different developed abilities, scores on the measures are moderately related. The correlation between Verbal Reasoning and Quantitative Reasoning scores is 0.35, the correlation between Verbal Reasoning and Analytical Writing scores is 0.67, and the correlation between Quantitative Reasoning and Analytical Writing scores is 0.20.

## Analytical Writing Section of the GRE revised General Test

- The Analytical Writing scores range from 0 to 6, in half-point increments. If no essay response is given for both tasks, an NS (No Score) is reported. Examinees who received a NS are excluded from the data reported in the tables.
- The Analytical Writing section is designed to measure different skills from those assessed in the Verbal Reasoning measure. The Analytical Writing section is performance based, and candidates must organize and articulate their own ideas as they discuss a complex issue and evaluate the logical soundness of an argument.
- Scoring guides for both writing tasks that describe the characteristics of a typical essay at each score level are available at [www.ets.org/gre/institution/awguides](http://www.ets.org/gre/institution/awguides). Score level descriptions appear on the last page of this Guide.
- The reliability of the Analytical Writing measure is estimated at 0.79. This is similar to the reliability for other writing measures where the reported score is based on a test taker's performance on two tasks.
- Reliability is influenced by the consistency of the ratings assigned to each essay. Overall, the two ratings used in each essay score are in agreement about 66 percent of the time; they differ by one score point about 33 percent of the time; and they differ by two or more score points about one percent of the time.
- The TOEFL and GRE Analytical Writing measures are quite different, by design. The TOEFL test emphasizes rhetorical and syntactic competence, whereas the GRE Analytical Writing section emphasizes critical reasoning and analytical writing

proficiency. The TOEFL iBT writing measure is reported as a Section Scaled Score, rather than a 6-point scale, like the GRE Analytical Writing measure. Therefore, the scores on the two tests cannot be compared. Additional information about the scoring of the TOEFL iBT writing measure is available at [www.ets.org/toefl](http://www.ets.org/toefl).

## Subject Tests

- The range of scaled scores is from 200 to 990, in 10-point increments, although the score range for any particular Subject Test is usually smaller. The range of subscores is from 20 to 99, although the range for any particular Subject Test subscore is usually smaller.
  - Scores from the different Subject Tests should not be directly compared because each Subject Test was scaled separately.
  - The Subject Tests are intended to have reliabilities of at least .90 for the total test scores. For each of the Subject Tests, the reliability coefficient of the total scores is at least .90, and the reliability coefficient of the subscores is at least .80. (See Table 5.)
- The SEM of score differences should be taken into account when comparing examinees' scores on the same Subject Test (see Table 5). Fine distinctions should not be made between two scores.
  - Independent research<sup>3</sup> indicates that Subject Test scores are moderately predictive of graduate first-year grade point average, comprehensive exam scores and faculty ratings. The Subject Tests are better predictors of success than either the GRE General Test or undergraduate grade point average.

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<sup>3</sup> Kuncel, N. R., Hezlett, S. A. and Ones, D. S. (2001). A comprehensive meta-analysis of the predictive validity of the *Graduate Record Examinations*: Implications for graduate student selection and performance. *Psychological Bulletin*, 127 (1), 162-181.



## Statistical Tables

### Description of the Tables

#### Tables 1A, 1B and 1C (General Test Interpretive Data)

To help interpret scaled scores, the GRE Program describes scores in terms of their standing in appropriate reference groups. Tables 1A and 1B provide percentile ranks (i.e., the percentages of examinees in a group who obtained scores lower than a specified score) for the GRE revised General Test measures. Table 1C provides summary statistics for this reference group for each of the three measures: scale score means, standard deviations, number of examinees and percent of the group by gender.

Because the GRE revised General Test was launched in August of 2011, Tables 1A, 1B and 1C are based on all examinees who tested between August 1, 2011, and April 30, 2012. In future years, as data accumulate, the results in the tables for the revised General Test will return to using a three-year cohort.

#### Tables 1D and 1E (Concordance Tables for Verbal Reasoning and Quantitative Reasoning)

Tables 1D and 1E provide the concordance relationships between the prior 200–800 score scale and the new 130–170 score scale for the Verbal Reasoning and Quantitative Reasoning measures of the GRE revised General Test. The tables provide an estimated score on the new scale for each score on the prior scale. Also included are the most recent percentile ranks associated with each score on the new scale.

#### Tables 2 and 3 (Subject Test Interpretive Data)

Tables 2 and 3 present the percentile ranks for the Subject Test total scores (Table 2) and subscores (Table 3). The percentile ranks are based on the percent of examinees scoring below a particular scale score. The data are based on all examinees who tested between July 1, 2008, and June 30, 2011.

The percentile ranks given in Table 3 for the Subject Test subscores may be used for diagnostic interpretation of the total score. For example, an examinee who obtains a score of 650 on the GRE Biology Test is likely to have subscores of 65, assuming the examinee is similarly able in the content areas measured by each subscore. For that examinee, scores much above or below 65 on a subscore would indicate strength or weakness in the content area associated with that subscore. Note that the strength or weakness could possibly reflect training that was targeted toward specific content areas.

#### Table 4 (Interpretive Data by Major Field)

Table 4 presents Verbal Reasoning, Quantitative Reasoning and Analytical Writing data for seniors and nonenrolled college graduates (who reported earning their college degrees up to two years prior to the test date) who stated that they intended to do graduate work in one of approximately 300 major fields. The score data are summarized by broad graduate major field categories so that applicants can be compared to others likely to be most similar to them in educational goals.

#### Table 5 (Reliability and Standard Error of Measurement)

Table 5 provides reliability estimates for GRE tests. Reliability indicates the degree to which individual examinees would keep the same relative standing if the test were administered more than once to each examinee. The reliability index ranges from zero to 1.00; a reliability index of 1.00 indicates that there is no measurement error in the test and therefore the test is perfectly reliable.

Table 5 also provides data on the standard errors of measurement (SEM) and SEM of score differences. SEM is an index of the variation in scores to be expected because of errors of measurement. For a group of examinees, it is an estimate of the average difference between

observed scores and “true” scores (i.e., what examinees’ scores on a test would hypothetically be if there were no measurement error). Approximately 95 percent of examinees will have obtained scores that are within a range extending from two standard errors below to two standard errors above their true scores.

The SEM of score differences is an index used to determine whether the difference between two scores is meaningful. Small differences in scores may be due to measurement error and not to real differences in the abilities of the examinees. This index incorporates the error of measurement in each examinee’s score being compared. To use the SEM of score differences, multiply the value by 1.65. Score differences exceeding this value are likely to reflect real differences in ability at a 90 percent confidence level.

**Tables 6A and 6B (Conditional Standard Errors of Measurement)**

Tables 6A and 6B contain estimates of the conditional standard errors of measurement (CSEM) at selected reported scores for the Verbal Reasoning and Quantitative Reasoning measures. While the SEMs presented in Table 5

address the average measurement precision of the test, the measurement precision actually varies across the score scale. The CSEM reflects this variation by indicating the amount of error in an examinee’s reported score at a given point on the scale.

The CSEM of score differences incorporates the measurement error in each examinee’s score. The CSEM of score differences should be used when comparing the scores of two examinees because small differences in scores may not represent real differences in the abilities of the examinees. To use the CSEM of score differences, take the larger of the two values and multiply by 1.65. Score differences exceeding this value are likely to reflect real differences in ability at a 90 percent confidence level.



**Table 1A: Verbal Reasoning and Quantitative Reasoning Interpretative Data Used on Score Reports**

(Based on the performance of all examinees who tested between August 1, 2011, and April 30, 2012)

Scaled Score	Percent of Examinees Scoring Lower than Selected Scaled Scores	
	VERBAL REASONING	QUANTITATIVE REASONING
170	99	99
169	99	98
168	98	97
167	97	96
166	96	94
165	95	92
164	93	90
163	91	88
162	89	86
161	86	83
160	83	81
159	80	77
158	77	74
157	73	71
156	69	68
155	65	64
154	61	60
153	57	56
152	53	52
151	49	48
150	44	43
149	40	39
148	36	35
147	32	31
146	28	27
145	24	23
144	21	20
143	18	17
142	15	14
141	12	11
140	10	9
139	8	7
138	6	5
137	5	4
136	4	3
135	3	2
134	2	1
133	1	1
132	1	1
131	1	1
130		

**Table 1B: Analytical Writing Interpretative Data Used on Score Reports**

(Based on the performance of all examinees who tested between August 1, 2011, and April 30, 2012)

Score Levels	Percent of Examinees Scoring Lower than Selected Score
	ANALYTICAL WRITING
6.0	99
5.5	96
5.0	92
4.5	73
4.0	49
3.5	30
3.0	11
2.5	6
2.0	1
1.5	1
1.0	1
.5	1
0.0	

**Table 1C: Performance Statistics on the GRE revised General Test\***

	VERBAL REASONING	QUANTITATIVE REASONING	ANALYTICAL WRITING
Mean	150.8	151.3	3.7
Standard Deviation	8.5	8.7	0.9
Number of Examinees	417,546	417,895	415,801
Percent Women	52		
Percent Men	41		

\*Seven percent of examinees did not provide any classification with regard to gender.

**Table 1D: Verbal Reasoning Concordance Table**

Prior Scale	New Scale	% Rank*
800	170	99
790	170	99
780	170	99
770	170	99
760	170	99
750	169	99
740	169	99
730	168	98
720	168	98
710	167	97
700	166	96
690	165	95
680	165	95
670	164	93
660	164	93
650	163	91
640	162	89
630	162	89
620	161	86
610	160	83
600	160	83
590	159	80
580	158	77
570	158	77
560	157	73
550	156	69
540	156	69
530	155	65
520	154	61
510	154	61
500	153	57

Verbal Reasoning Concordance Table (continued)

Prior Scale	New Scale	% Rank
490	152	53
480	152	53
470	151	49
460	151	49
450	150	44
440	149	40
430	149	40
420	148	36
410	147	32
400	146	28
390	146	28
380	145	24
370	144	21
360	143	18
350	143	18
340	142	15
330	141	12
320	140	10
310	139	8
300	138	6
290	137	5
280	135	3
270	134	2
260	133	1
250	132	1
240	131	1
230	130	
220	130	
210	130	
200	130	

\*Based on the performance of all examinees who tested between August 1, 2011, and April 30, 2012. Percentile ranks will be updated in July 2013.

**Table 1E: Quantitative Reasoning Concordance Table**

Prior Scale	New Scale	% Rank*
800	166	94
790	164	90
780	163	88
770	161	83
760	160	81
750	159	77
740	158	74
730	157	71
720	156	68
710	155	64
700	155	64
690	154	60
680	153	56
670	152	52
660	152	52
650	151	48
640	151	48
630	150	43
620	149	39
610	149	39
600	148	35
590	148	35
580	147	31
570	147	31
560	146	27
550	146	27
540	145	23
530	145	23
520	144	20
510	144	20
500	144	20

Quantitative Reasoning Concordance Table (continued)

Prior Scale	New Scale	% Rank
490	143	17
480	143	17
470	142	14
460	142	14
450	141	11
440	141	11
430	141	11
420	140	9
410	140	9
400	140	9
390	139	7
380	139	7
370	138	5
360	138	5
350	138	5
340	137	4
330	137	4
320	136	3
310	136	3
300	136	3
290	135	2
280	135	2
270	134	1
260	134	1
250	133	1
240	133	1
230	132	1
220	132	1
210	131	1
200	131	1

Note: Score users should use special care in evaluating test takers who received a Quantitative Reasoning score at the top end of the prior 200-800 score scale. Now, with the new 130-170 score scale, we can provide more differentiation for higher ability test takers. However, test takers who took the prior test and received an 800 on the Quantitative Reasoning measure, received the highest score possible that they were able to earn on the measure. Therefore, this information should be considered when making admissions decisions.

\*Based on the performance of all examinees who tested between August 1, 2011, and April 30, 2012. Percentile ranks will be updated in July 2013.

**Table 2: Subject Tests Total Score Interpretive Data  
Used on Score Reports**

(Based on the performance of all examinees who tests between July 1, 2008, and June 30, 2011)

Scaled Score	Percent of Examinees Scoring Lower than Selected Scaled Scores								Scaled Score
	<i>Biochemistry, Cell and Molecular Biology *</i>	<i>Biology*</i>	<i>Chemistry</i>	<i>Computer Science</i>	<i>Literature in English</i>	<i>Mathematics</i>	<i>Physics+</i>	<i>Psychology*</i>	
980							94		980
960							92		960
940			99				91		940
920		99	98			99	89		920
900		98	96			97	87		900
880		97	93	99		94	84		880
860		95	90	97		91	82		860
840		93	86	92		88	80		840
820		90	81	86		85	77		820
800		87	76	81		81	74	99	800
780		83	70	74		78	70	97	780
760	99	79	65	67	99	74	67	94	760
740	99	74	59	60	98	70	63	89	740
720	98	68	52	53	96	66	59	83	720
700	96	63	48	47	93	61	56	77	700
680	93	57	42	40	90	56	51	70	680
660	90	51	36	35	85	52	47	62	660
640	87	46	30	28	80	47	42	55	640
620	81	40	25	22	74	42	37	47	620
600	76	34	20	17	67	36	32	40	600
580	69	29	15	13	60	31	27	34	580
560	62	24	11	9	52	27	23	28	560
540	54	19	7	6	45	21	18	22	540
520	47	15	5	4	37	17	14	18	520
500	39	11	3	2	31	13	10	14	500
480	31	8	2		24	9	7	11	480
460	25	5	1		19	6	4	8	460
440	19	3			14	4	2	6	440
420	14	2			10	3	1	4	420
400	10	1			6	2		3	400
380	6				4	1		2	380
360	4				3			1	360
340	2				2			1	340
320	1				1				320
300					1				300
280									280
260									260
240									240
220									220
200									200
Number of Examinees	5,438	8,256	9,406	2,876	9,292	12,762	15,022	19,755	Number of Examinees
Percent Women	49	64	40	13	64	27	22	76	Percent Women
Percent Men	49	34	59	85	35	71	76	23	Percent Men
Mean	525	651	703	698	547	655	689	612	Mean
Standard Deviation	97	122	114	99	98	135	156	103	Standard Deviation

\* For additional data and interpretive information about subscores for these tests, see Table 3.

+ For the Physics Test, the percent of examinees scoring lower than 990 is 95.

**Table 3: Subject Tests Interpretive Data for Subscores**

(Based on the performance of all examinees who tested between July 1, 2008, and June 30, 2011)

Scaled Score	Percent of Examinees Scoring Lower than Selected Scaled Scores									Scaled Score
	<i>Biochemistry, Cell and Molecular Biology</i>			<i>Biology</i>			<i>Psychology</i>			
	<i>Biochemistry</i>	<i>Cell Biology</i>	<i>Molecular Biology and Genetics</i>	<i>Cellular and Molecular Biology</i>	<i>Organismal Biology</i>	<i>Ecology and Evolution</i>	<i>Experimental Psychology</i>	<i>Social Psychology</i>		
98										98
96										96
94				99	99					94
92				99	99	99				92
90				98	98	99				90
88				96	96	98				88
86				95	94	96				86
84				92	92	93				84
82				89	90	90	99			82
80				86	87	86	98	99		80
78				83	83	82	95	97		78
76		99		79	78	78	92	94		76
74	99	98	99	73	73	72	88	90		74
72	98	97	98	69	70	67	83	85		72
70	96	95	97	63	64	61	76	78		70
68	94	93	94	58	57	55	70	70		68
66	91	90	91	53	51	50	62	62		66
64	87	85	87	46	45	44	55	54		64
62	81	80	82	40	39	39	48	47		62
60	76	75	77	35	34	34	41	39		60
58	69	68	69	30	29	29	35	34		58
56	62	62	63	24	23	24	29	27		56
54	54	55	55	19	18	20	23	22		54
52	46	47	47	14	13	15	18	17		52
50	38	38	39	10	10	12	14	14		50
48	32	31	32	6	7	10	10	11		48
46	24	25	26	3	4	6	7	8		46
44	18	18	19	2	2	5	5	6		44
42	13	12	14	1	1	3	3	4		42
40	9	8	9		1	2	2	3		40
38	6	5	6			1	1	2		38
36	3	2	4				1	1		36
34	2	1	2					1		34
32	1		1							32
30										30
28										28
26										26
24										24
22										22
20										20
Number of Examinees	5,438			8,256			19,755			Number of Examinees
Mean	53	53	52	65	65	65	61	61	Mean	
Standard Deviation	9	10	9	12	12	12	10	10	Standard Deviation	
Total Score Mean	525			651			612			Total Score Mean
Standard Deviation	97			122			103			Standard Deviation

**Table 4: General Test Percentage Distribution of Scores Within Intended Broad Graduate Major Field  
Based on Seniors and Nonenrolled College Graduates**  
(Based on the performance of seniors and nonenrolled college graduates\*  
who tested between August 1, 2011, and April 30, 2012)

Intended Graduate Major	VERBAL												QUANTITATIVE												ANALYTICAL WRITING											
	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	0	0.5 & 1	1.5 & 2	2.5 & 3	3.5 & 4	4.5 & 5	5.5 & 6	N	Mean	S.D.		
<b>LIFE SCIENCES</b>	0.8	4.0	13.0	23.6	25.4	19.5	10.0	3.2	0.4	35,903	151	7	0.6	4.4	14.2	24.3	27.4	17.8	8.3	2.5	0.3	35,890	151	7	0.0	0.1	2.3	18.4	49.7	26.6	2.9	35,778	3.8	0.7		
Agriculture	1.6	4.4	12.5	23.6	27.1	18.6	9.1	2.6	0.4	2,036	151	7	0.7	2.9	11.4	24.7	29.9	17.9	9.5	2.8	0.2	2,036	151	7	0.0	0.1	4.1	22.2	49.1	22.2	2.3	2,016	3.7	0.8		
Biological Sciences	0.5	2.7	9.2	19.0	25.1	23.5	14.1	5.0	0.7	16,435	153	7	0.3	2.2	8.6	19.3	28.9	23.4	12.6	4.1	0.6	16,435	153	7	0.0	0.1	1.8	16.1	47.9	30.4	3.7	16,402	3.9	0.7		
Health and Medical Sciences	0.9	5.1	16.7	28.0	25.5	15.8	6.3	1.6	0.2	17,432	150	7	0.9	6.7	19.8	29.1	25.7	12.6	4.1	1.0	0.1	17,419	149	6	0.0	0.1	2.6	20.2	51.5	23.4	2.1	17,360	3.8	0.7		
<b>PHYSICAL SCIENCES</b>	2.5	6.4	10.8	15.6	19.3	20.4	16.2	7.4	1.3	20,189	153	9	0.2	1.0	3.1	8.7	17.0	24.2	25.4	16.7	3.8	20,199	158	7	0.0	0.2	5.1	21.4	43.5	25.9	3.8	20,159	3.8	0.8		
Chemistry	0.9	5.0	10.0	18.0	21.6	21.5	15.4	6.6	0.9	3,499	153	8	0.1	0.5	2.7	10.1	22.4	28.0	23.1	11.1	1.9	3,499	157	7	0.0	0.2	2.4	19.3	46.0	28.5	3.5	3,495	3.9	0.8		
Computer and Information Sciences	6.4	13.7	17.6	15.9	15.0	13.7	11.3	5.3	1.1	5,965	149	10	0.4	2.2	4.7	8.9	15.0	22.5	25.5	17.1	3.7	5,976	158	8	0.0	0.5	11.2	32.0	38.6	15.6	2.1	5,954	3.4	0.9		
Earth, Atmospheric, and Marine Sciences	0.5	1.7	6.1	17.3	27.2	25.1	16.4	5.1	0.7	3,480	154	7	0.1	1.3	5.6	18.5	29.8	26.0	14.0	3.8	0.8	3,480	154	6	0.0	0.1	2.1	15.9	47.4	30.9	3.7	3,478	3.9	0.7		
Mathematical Sciences	1.0	3.5	9.4	14.6	19.1	21.7	19.2	9.5	1.9	4,078	154	8	0.0	0.2	0.7	3.0	9.3	20.7	31.9	27.3	6.9	4,077	161	6	0.0	0.1	2.7	17.4	45.0	29.4	5.4	4,071	3.9	0.8		
Physics and Astronomy	0.9	3.2	5.8	11.5	16.3	25.2	22.6	12.3	2.3	3,099	156	8	0.0	0.2	0.4	2.4	10.3	25.8	32.6	22.9	5.5	3,099	161	6	0.0	0.1	2.9	15.3	43.7	32.3	5.7	3,094	4.0	0.8		
Natural Sciences — Other	4.4	1.5	11.8	23.5	22.1	25.0	11.8	0.0	0.0	68	151	7	0.0	1.5	17.6	29.4	25.0	14.7	7.4	4.4	0.0	68	151	7	0.0	0.0	4.5	11.9	56.7	26.9	0.0	67	3.8	0.7		
<b>ENGINEERING</b>	3.1	9.0	14.4	18.3	19.9	19.0	11.7	4.0	0.4	22,455	150	9	0.1	0.5	1.8	5.3	13.5	25.8	31.0	18.7	3.2	22,488	159	6	0.0	0.3	6.9	26.1	43.5	20.7	2.6	22,402	3.6	0.8		
Chemical	1.5	5.6	11.6	17.1	19.5	22.4	16.0	5.7	0.6	1,780	153	8	0.1	0.1	0.9	3.4	11.2	23.3	36.5	21.1	3.3	1,782	160	6	0.0	0.2	3.5	20.8	44.5	27.1	3.9	1,780	3.8	0.8		
Civil	3.0	6.8	14.1	20.3	23.5	19.5	9.5	2.9	0.3	3,379	150	8	0.0	0.4	1.3	6.4	17.2	31.3	27.4	14.1	1.9	3,389	158	6	0.0	0.2	5.5	25.1	46.6	20.6	2.0	3,370	3.6	0.8		
Electrical and Electronics	5.2	13.5	18.6	20.8	17.7	13.1	8.4	2.5	0.3	6,678	148	9	0.2	1.1	2.5	6.3	13.1	22.1	29.9	20.8	3.9	6,687	159	7	0.0	0.5	11.1	33.3	41.1	12.6	1.4	6,669	3.4	0.8		
Industrial	3.0	10.1	17.3	22.2	20.9	16.3	8.7	1.4	0.0	802	149	8	0.0	0.4	2.4	6.8	12.9	26.1	30.9	17.2	3.3	808	159	7	0.1	0.1	6.5	29.5	43.8	18.3	1.6	797	3.6	0.8		
Materials	1.4	6.2	12.6	17.1	16.0	21.4	15.6	8.4	1.3	788	153	9	0.0	0.0	0.8	1.9	9.8	22.5	36.9	23.7	4.4	788	161	5	0.0	0.4	2.8	26.1	39.7	26.6	4.5	786	3.8	0.8		
Mechanical	3.1	9.2	13.6	16.7	20.0	20.7	11.8	4.4	0.4	4,774	151	9	0.1	0.5	2.1	4.8	12.6	26.5	31.7	19.0	2.8	4,776	159	6	0.0	0.3	6.8	25.6	43.7	20.9	2.6	4,762	3.6	0.8		
Other	1.2	4.8	9.9	14.7	21.2	24.7	16.7	6.0	0.7	4,254	153	8	0.0	0.2	1.3	4.4	14.0	28.1	31.4	17.1	3.3	4,258	159	6	0.0	0.1	3.4	17.7	44.7	30.2	3.9	4,238	3.9	0.8		

\*Limited to those who earned their college degrees up to two years prior to the test date. Note: This table does not include summary information on the approximately 75 examinees whose response to the department code question was invalid (misgrids, blanks, etc.) or the approximately 5,400 examinees whose response was "Undecided".

**Table 4: General Test Percentage Distribution of Scores Within Intended Broad Graduate Major Field  
Based on Seniors and Nonenrolled College Graduates**  
(Based on the performance of seniors and nonenrolled college graduates\*  
who tested between August 1, 2011, and April 30, 2012)

Intended Graduate Major	VERBAL											QUANTITATIVE											ANALYTICAL WRITING											
	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	0	0.5 & 1	1.5 & 2	2.5 & 3	3.5 & 4	4.5 & 5	5.5 & 6	N	Mean	S.D.
<b>SOCIAL SCIENCES</b>	0.6	2.9	10.2	19.4	24.7	23.1	13.7	4.8	0.7	35,072	153	7	1.4	7.1	18.0	24.7	23.5	14.9	7.0	2.9	0.5	35,092	150	8	0.0	0.1	1.8	13.9	46.4	32.5	5.3	35,003	4.0	0.7
Anthropology and Archaeology	0.1	0.8	3.7	11.9	23.1	29.9	21.3	8.4	0.8	2,331	156	6	0.7	5.7	17.8	28.3	27.8	14.3	4.4	0.7	0.2	2,331	149	6	0.0	0.0	0.9	8.8	46.0	38.3	6.0	2,329	4.1	0.7
Economics	0.8	3.3	8.3	14.8	20.3	24.4	18.5	8.0	1.4	3,355	154	8	0.1	0.4	1.8	6.4	16.2	26.0	27.5	18.2	3.5	3,367	159	7	0.0	0.2	2.4	14.9	43.9	32.3	6.3	3,343	4.0	0.8
Political Science	0.3	1.7	5.6	11.6	21.5	27.2	21.5	9.1	1.4	5,452	156	7	1.0	5.1	13.8	23.6	25.6	19.6	8.1	2.9	0.4	5,460	151	7	0.0	0.1	1.0	9.1	39.0	39.9	10.9	5,445	4.2	0.8
Psychology	0.5	3.0	11.8	22.6	26.4	21.9	10.5	2.9	0.3	19,505	152	7	1.5	7.9	21.2	27.6	24.2	12.5	4.1	0.9	0.1	19,507	148	7	0.0	0.0	1.7	14.7	48.9	30.8	3.8	19,465	4.0	0.7
Sociology	1.3	3.3	12.2	19.1	27.1	21.2	11.5	3.6	0.8	1,899	152	7	2.5	11.2	20.0	26.4	21.6	11.9	4.8	1.5	0.1	1,899	148	7	0.0	0.1	2.5	14.9	46.9	30.7	4.9	1,897	4.0	0.8
Other	1.7	6.0	14.9	23.8	23.1	17.4	9.8	2.9	0.4	2,530	150	8	2.8	12.7	22.1	24.3	20.6	12.3	3.6	1.4	0.2	2,528	147	7	0.0	0.1	3.9	20.2	46.9	25.2	3.7	2,524	3.8	0.8
<b>HUMANITIES AND ARTS</b>	0.4	1.3	4.2	10.6	19.5	26.7	24.3	11.0	2.1	15,555	157	7	1.3	6.8	17.7	26.0	24.7	15.3	6.1	1.9	0.1	15,542	149	7	0.0	0.1	1.3	9.4	40.4	39.4	9.5	15,550	4.2	0.8
Arts — History, Theory, and Criticism	0.3	0.9	4.3	11.9	23.0	27.0	22.5	9.3	0.8	1,198	156	7	1.2	7.7	18.0	26.4	25.6	14.0	5.3	1.8	0.1	1,197	149	7	0.0	0.1	0.8	8.8	45.7	36.8	7.8	1,198	4.2	0.7
Arts — Performance and Studio	1.3	3.8	9.9	16.5	22.7	22.9	16.3	5.7	0.9	1,325	153	8	0.8	7.1	18.6	24.8	23.0	14.4	8.2	3.1	0.1	1,325	150	8	0.1	0.1	4.2	19.8	46.3	25.5	4.0	1,327	3.8	0.8
English Language and Literature	0.4	0.9	3.2	9.0	18.7	28.0	26.7	11.3	1.8	5,766	157	7	1.7	7.3	19.8	28.1	24.0	13.2	4.6	1.2	0.1	5,756	148	7	0.0	0.1	0.9	7.7	38.3	42.2	10.9	5,763	4.3	0.7
Foreign Languages and Literatures	0.6	2.8	7.5	13.6	21.8	25.0	19.8	7.0	1.9	1,092	155	8	1.6	7.4	15.3	24.5	23.9	19.4	6.0	1.7	0.1	1,092	150	7	0.0	0.1	2.4	13.7	44.1	33.0	6.7	1,091	4.0	0.8
History	0.3	1.0	3.7	12.1	21.1	29.2	21.8	9.0	1.7	3,665	156	7	1.4	8.1	20.0	27.8	24.4	12.8	4.4	1.0	0.1	3,663	148	7	0.0	0.0	0.9	8.4	42.9	39.8	8.0	3,663	4.2	0.7
Philosophy	0.0	0.6	2.0	4.9	13.4	22.7	31.4	20.7	4.2	1,124	160	7	0.2	2.1	8.0	18.2	29.1	25.4	11.8	4.5	0.5	1,124	153	7	0.0	0.0	0.6	5.2	31.8	45.3	17.1	1,123	4.4	0.7
Other	0.2	1.4	3.2	8.4	15.2	22.2	28.3	16.5	4.4	1,385	158	7	0.8	3.7	11.3	21.1	26.1	21.5	11.3	4.0	0.2	1,385	152	7	0.0	0.1	1.1	9.0	36.5	42.9	10.5	1,385	4.3	0.8
<b>EDUCATION</b>	0.8	4.6	14.8	25.4	23.7	18.6	8.9	3.0	0.2	7,917	151	7	1.4	8.6	22.0	27.3	22.1	11.6	5.1	1.8	0.2	7,915	148	7	0.0	0.0	1.9	17.4	48.5	28.5	3.6	7,898	3.9	0.7
Administration	1.0	4.1	16.8	28.1	23.0	14.8	9.2	2.6	0.5	196	150	7	2.0	6.1	21.9	19.4	25.5	15.3	6.1	3.6	0.0	196	149	8	0.0	0.0	2.6	23.5	44.4	26.5	3.1	196	3.8	0.8
Curriculum and Instruction	2.0	6.0	12.0	25.0	23.0	22.0	7.0	3.0	0.0	100	150	7	0.0	12.0	18.0	29.0	16.0	14.0	10.0	1.0	0.0	100	149	7	0.0	0.0	5.0	17.0	48.0	27.0	3.0	100	3.8	0.8

\*Limited to those who earned their college degrees up to two years prior to the test date. Note: This table does not include summary information on the approximately 75 examinees whose response to the department code question was invalid (misgrids, blanks, etc.) or the approximately 5,400 examinees whose response was "Undecided".



**Table 4: General Test Percentage Distribution of Scores Within Intended Broad Graduate Major Field  
Based on Seniors and Nonenrolled College Graduates**  
(Based on the performance of seniors and nonenrolled college graduates\*  
who tested between August 1, 2011, and April 30, 2012)

Intended Graduate Major	VERBAL												QUANTITATIVE												ANALYTICAL WRITING											
	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	0	0.5 & 1	1.5 & 2	2.5 & 3	3.5 & 4	4.5 & 5	5.5 & 6	N	Mean	S.D.		
Early Childhood	1.3	8.0	22.4	32.4	21.9	10.3	3.1	0.8	0.0	389	148	6	2.6	12.3	30.3	31.4	16.2	5.9	1.0	0.3	0.0	389	146	6	0.0	0.0	2.5	24.1	53.1	18.8	1.5	399	3.7	0.7		
Elementary	1.2	5.2	18.2	28.6	22.4	15.9	5.8	2.7	0.0	1,160	150	7	1.1	9.8	25.3	29.6	21.4	9.8	2.2	0.7	0.1	1,160	147	6	0.1	0.1	2.0	20.1	47.7	27.1	2.9	1,146	3.8	0.7		
Evaluation and Research	1.0	4.1	14.9	26.6	24.6	19.4	7.7	1.4	0.2	1,473	150	7	1.1	9.6	23.8	28.1	21.9	10.1	4.0	1.2	0.1	1,472	148	7	0.0	0.0	1.9	15.8	51.9	27.9	2.4	1,471	3.9	0.7		
Higher	1.0	4.0	11.7	23.0	24.9	21.2	10.6	3.2	0.4	934	152	7	2.4	6.5	18.5	27.7	23.6	13.6	5.6	2.1	0.0	933	149	7	0.0	0.0	0.6	13.9	43.5	36.1	5.9	934	4.1	0.7		
Secondary	0.2	1.4	7.1	17.8	24.9	25.5	16.1	6.5	0.5	1,275	154	7	0.9	4.7	15.0	23.2	26.1	16.8	9.6	3.4	0.3	1,275	151	7	0.0	0.0	0.8	11.3	45.8	36.1	6.0	1,273	4.1	0.7		
Special	0.3	6.7	17.4	28.3	25.4	14.9	5.6	1.1	0.3	657	149	7	1.8	12.6	25.3	31.5	17.8	8.7	1.8	0.5	0.0	657	146	6	0.3	0.0	2.0	22.3	47.6	25.3	2.4	655	3.8	0.7		
Student Counseling and Personnel Svcs	0.4	6.1	19.7	28.8	22.3	16.6	5.5	0.6	0.0	493	149	6	3.2	9.9	30.2	30.2	17.0	7.3	1.4	0.6	0.0	493	146	6	0.0	0.0	1.8	20.2	52.0	23.5	2.4	490	3.8	0.7		
Other	1.0	5.5	16.0	24.9	21.9	17.0	9.5	4.1	0.1	1,240	151	8	0.8	7.9	19.2	24.8	23.6	12.7	7.8	2.8	0.4	1,240	149	8	0.0	0.2	3.2	19.3	50.0	24.0	3.4	1,234	3.8	0.8		
<b>BUSINESS</b>	1.9	6.4	16.5	24.9	24.4	17.2	6.9	1.6	0.2	5,711	150	7	0.9	4.7	12.6	20.3	22.7	17.2	11.9	8.0	1.7	5,754	152	8	0.0	0.2	4.5	23.3	48.9	20.7	2.3	5,668	3.7	0.8		
Accounting	2.0	8.0	15.5	29.6	24.4	15.5	4.0	0.9	0.0	348	149	7	0.3	2.9	11.5	21.8	24.7	20.4	10.6	6.9	0.9	348	153	8	0.0	0.6	6.5	21.5	54.7	16.8	0.0	340	3.6	0.8		
Banking and Finance	1.3	5.8	15.7	24.2	21.5	19.0	11.1	1.3	0.1	832	150	7	0.2	0.6	3.2	6.3	13.4	18.9	29.0	22.9	5.4	837	160	7	0.0	0.1	3.9	25.4	49.5	18.9	2.2	830	3.7	0.8		
Business Admin and Management	2.1	6.1	15.7	24.1	25.3	17.6	7.1	1.8	0.2	2,324	150	7	1.5	6.1	15.7	24.1	25.3	15.7	7.0	4.0	0.6	2,354	150	8	0.1	0.3	4.3	23.1	47.6	22.3	2.4	2,299	3.7	0.8		
Other	2.0	6.6	17.8	25.2	24.5	16.3	5.6	1.7	0.2	2,207	149	7	0.7	5.0	13.0	21.2	23.2	17.7	11.0	6.8	1.5	2,215	152	8	0.0	0.2	4.7	23.1	49.0	20.3	2.7	2,199	3.7	0.8		
<b>OTHER FIELDS</b>										47,431												47,430										47,316				
Architecture and Environmental Design	2.2	7.1	14.0	22.1	22.6	18.9	9.6	3.1	0.4	3,315	150	8	0.3	2.5	8.4	21.2	28.0	22.6	11.7	4.7	0.7	3,321	153	7	0.0	0.0	4.3	26.9	44.7	21.5	2.5	3,310	3.7	0.8		
Communications	1.3	5.5	14.7	24.2	24.0	18.1	9.6	2.4	0.2	4,475	151	7	2.2	11.5	23.0	27.0	19.5	9.7	5.6	1.4	0.1	4,474	147	7	0.0	0.2	2.4	18.3	46.4	28.6	4.2	4,470	3.9	0.8		
Home Economics	0.4	6.9	15.9	27.8	26.4	18.4	3.6	0.7	0.0	277	149	6	2.9	17.0	26.7	30.0	14.8	7.6	0.7	0.4	0.0	277	145	6	0.0	0.0	2.2	20.4	52.2	23.7	1.5	274	3.8	0.7		
Library and Archival Sciences	0.3	0.8	3.5	10.7	22.0	27.8	20.6	12.0	2.1	708	157	7	1.3	7.5	21.0	31.5	20.6	13.1	4.1	0.8	0.0	708	148	7	0.0	0.3	1.0	11.8	46.3	34.8	5.8	706	4.1	0.7		

\*Limited to those who earned their college degrees up to two years prior to the test date. Note: This table does not include summary information on the approximately 75 examinees whose response to the department code question was invalid (misgrids, blanks, etc.) or the approximately 5,400 examinees whose response was "Undecided".

**Table 4: General Test Percentage Distribution of Scores Within Intended Broad Graduate Major Field  
Based on Seniors and Nonenrolled College Graduates**  
(Based on the performance of seniors and nonenrolled college graduates\*  
who tested between August 1, 2011, and April 30, 2012)

Intended Graduate Major	VERBAL												QUANTITATIVE												ANALYTICAL WRITING											
	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	130-134	135-139	140-144	145-149	150-154	155-159	160-164	165-169	170	N	Mean	S.D.	0	0.5 & 1	1.5 & 2	2.5 & 3	3.5 & 4	4.5 & 5	5.5 & 6	N	Mean	S.D.		
Public Administration	0.9	4.3	12.9	21.1	24.9	21.7	10.8	3.2	0.1	1,082	151	7	2.1	9.1	21.3	27.4	22.3	11.1	5.2	1.5	0.0	1,082	148	7	0.0	0.1	2.1	16.3	48.2	29.4	3.8	1,080	3.9	0.7		
Religion and Theory	0.5	1.9	2.8	11.2	18.5	26.7	23.0	13.1	2.3	427	157	7	1.2	7.1	13.6	25.2	25.4	16.7	8.9	1.9	0.0	425	150	7	0.0	0.0	1.4	8.7	37.8	40.6	11.5	426	4.3	0.8		
Social Work	1.9	8.1	18.3	24.3	21.8	16.7	6.6	2.1	0.2	2,459	149	7	5.5	18.6	28.2	24.3	15.5	6.0	1.5	0.3	0.0	2,457	145	7	0.0	0.3	4.8	22.3	47.5	23.2	1.9	2,455	3.7	0.8		
Other										34,688												34,686										34,595				

\*Limited to those who earned their college degrees up to two years prior to the test date. Note: This table does not include summary information on the approximately 75 examinees whose response to the department code question was invalid (misgrids, blanks, etc.) or the approximately 5,400 examinees whose response was "Undecided".

**Table 5: Reliability Estimates and Standard Errors of Measurement for Individual Scores and Score Differences**

Score	Reliability Estimate <sup>1</sup>		Standard Errors of Measurement				Sample Size
			Individual Scores		Score Differences		
	Total Score	Subscore	Total Score	Subscore	Total Score	Subscore	
<b>GENERAL TEST<sup>2</sup></b>							
Verbal Reasoning	0.93		2.2		3.1		
Quantitative Reasoning	0.94		2.0		2.9		
Analytical Writing <sup>3</sup>	0.79		0.4		0.5		
<b>SUBJECT TEST<sup>4</sup></b>							
Biochemistry (Total Score)	0.94		23		32		375
Biochemistry		0.87		3.3		4.6	375
Cell Biology		0.85		3.5		5.0	375
Molecular Biology and Genetics		0.86		3.4		4.8	375
Biology (Total Score)	0.96		25		36		832
Cellular and Molecular Biology		0.89		3.9		5.6	832
Organismal Biology		0.87		4.4		6.2	832
Ecology and Evolution		0.91		3.7		5.2	832
Chemistry	0.94		25		35		1057
Computer Science	0.91		26		37		225
Literature in English	0.96		19		27		921
Mathematics	0.92		31		44		1326
Physics	0.94		32		45		1879
Psychology (Total Score)	0.95		22		31		1842
Experimental Psychology		0.90		3.1		4.3	1842
Social Psychology		0.88		3.4		4.8	1842

<sup>1</sup> The reliability estimates for the Subject Tests were computed by the Kuder-Richardson formula (20) adapted for use with formula scores.

<sup>2</sup> The reliability estimates and standard errors of measurement for the Verbal Reasoning and Quantitative Reasoning measures of the revised General Test are based on item response theory (IRT). The standard errors of measurement represent an average of the theoretical standard errors for each MST delivered between August 1, 2011 and April 30, 2012. The reliability estimates for the paper-based version of the measures are similar to the values for the computer-based versions of the measures presented in the table.

<sup>3</sup> The reliability of the Analytical Writing measure was computed based on the performance of all examinees who tested between August 1, 2011 and April 30, 2012.

<sup>4</sup> The reliabilities for the Subject Test total scores are each the median of five recent editions. The reported standard error of measurement, sample sizes, and Subject Test subscore reliabilities (if applicable) are based on the test edition that had the median reliability.

**Table 6A: Conditional Standard Errors of Measurement at Selected Scores for the revised General Test Measures\***

Measure	130	135	140	145	150	155	160	165	170
Verbal Reasoning	3.9	3.3	2.6	2.3	2.1	2.0	2.0	2.0	1.4
Quantitative Reasoning	3.4	2.6	2.2	2.1	2.0	1.9	1.9	2.1	1.1

**Table 6B: Conditional Standard Errors of Measurement of Score Differences at Selected Scores for the revised General Test Measures\***

Measure	130	135	140	145	150	155	160	165	170
Verbal Reasoning	5.5	4.6	3.7	3.2	3.0	2.8	2.8	2.8	2.0
Quantitative Reasoning	4.8	3.7	3.1	2.9	2.8	2.7	2.7	3.0	1.6

\*The multi-stage tests used to compute the CSEMs and CSEMs of score differences are the same as those on which the reliability estimates in Table 5 are based. Conditional standard errors of measurement are not available for the Analytical Writing measure.

## **GRE ANALYTICAL WRITING SECTION SCORE LEVEL DESCRIPTIONS**

Although the GRE Analytical Writing measure contains two discrete analytical writing tasks, a single combined score is reported because it is more reliable than is a score for either task alone. The reported score ranges from 0 to 6, in half-point increments.

The statements below describe, for each score level, the overall quality of analytical writing demonstrated across both the Issue and Argument tasks. The test assesses "analytical writing," so critical thinking skills (the ability to reason, assemble evidence to develop a position and communicate complex ideas) are assessed along with the writer's control of grammar and the mechanics of writing.

### **Scores 6 and 5.5**

Sustains insightful, in-depth analysis of complex ideas; develops and supports main points with logically compelling reasons and/or highly persuasive examples; is well focused and well organized; skillfully uses sentence variety and precise vocabulary to convey meaning effectively; demonstrates superior facility with sentence structure and usage, but may have minor errors that do not interfere with meaning.

### **Scores 5 and 4.5**

Provides generally thoughtful analysis of complex ideas; develops and supports main points with logically sound reasons and/or well-chosen examples; is generally focused and well organized; uses sentence variety and vocabulary to convey meaning clearly; demonstrates good control of sentence structure and usage, but may have minor errors that do not interfere with meaning.

### **Scores 4 and 3.5**

Provides competent analysis of ideas in addressing specific task directions; develops and supports main points with relevant reasons and/or examples; is adequately organized; conveys meaning with acceptable clarity; demonstrates satisfactory control of sentence structure and usage, but may have some errors that affect clarity.

### **Scores 3 and 2.5**

Displays some competence in analytical writing and addressing specific task directions, although the writing is flawed in at least one of the following ways: limited analysis or development; weak organization; weak control of sentence structure or usage, with errors that often result in vagueness or a lack of clarity.

### **Scores 2 and 1.5**

Displays serious weaknesses in analytical writing. The writing is seriously flawed in at least one of the following ways: serious lack of analysis or development; unclear in addressing specific task directions; lack of organization; frequent problems in sentence structure or usage, with errors that obscure meaning.

### **Scores 1 and 0.5**

Displays fundamental deficiencies in analytical writing. The writing is fundamentally flawed in at least one of the following ways: content that is extremely confusing or mostly irrelevant to the assigned tasks; little or no development; severe and pervasive errors that result in incoherence.

### **Score Level 0**

The examinee's analytical writing skills cannot be evaluated because the responses do not address any part of the assigned tasks, are merely attempts to copy the assignments, are in a foreign language or display only indecipherable text.

### **Score NS**

The examinee produced no text whatsoever.