



**GRE**<sup>®</sup>

GRADUATE RECORD EXAMINATIONS<sup>®</sup>

# General Test Practice Book

**This practice book contains**

- one full-length paper-based GRE General Test
- test-taking strategies
- sample verbal and quantitative questions with explanations
- sample analytical writing topics, scored sample essays, and reader commentary

Visit the GRE Web site at [www.gre.org](http://www.gre.org) for additional test preparation resources.

IMPORTANT NOTICE: The test-taking strategies in this publication are appropriate for use at a paper-based administration and do not pertain to the computer-based General Test. Individuals planning to take the computer-based General Test are advised to prepare for the test using *GRE POWERPREP*<sup>®</sup> software.

*Listening.*  
*Learning.*  
*Leading.*

This book is provided **FREE** with test registration by the Graduate Record Examinations Board.

## IMPORTANT

The verbal and quantitative sections in the GRE General Test in this publication contain questions written and administered prior to 1995. For this reason, some of the material covered in the questions may be dated. For example, a question may refer to a rapidly changing technology in a way that was correct in the 1980s and early 1990s, but not now. In addition, Educational Testing Service® ETS® has revised and updated its standards and guidelines for test questions so some questions may not meet current standards. Questions that do not meet current ETS standards, and would not appear in GRE tests administered today, are marked with an asterisk (see pages 35 and 44).

Note to Test Takers: Keep this practice book until you receive your score report.  
The book contains important information about scoring.

## Table of Contents

Purpose of the GRE General Test .....	3
Structure of the GRE General Test .....	3
Scores Reported .....	4
Preparing for the GRE General Test .....	4
Test-Taking Strategies .....	5
Review of the Verbal Section	
Overview .....	6
How the Verbal Section is Scored .....	6
Antonyms .....	6
Analogies .....	6
Sentence Completions .....	7
Reading Comprehension Questions .....	7
Review of the Quantitative Section	
Overview .....	9
How the Quantitative Section is Scored .....	10
Quantitative Comparison Questions .....	10
Problem Solving — Discrete	
Quantitative Questions .....	10
Problem Solving — Data	
Interpretation Questions .....	11
Review of the Analytical Writing Section	
Overview .....	12
How the Analytical Writing Section is Scored ...	12
Present Your Perspective on an Issue Task .....	13
Analyze an Argument Task .....	20
Taking the Practice GRE General Test .....	27
Evaluating Your Performance .....	27
Verbal and Quantitative Sections .....	27
Analytical Writing Section .....	27
Additional Preparation .....	28
Practice GRE General Test .....	29
Appendices	
A — Analytical Writing Scoring Guides and	
Score Level Descriptions .....	51
B — Verbal and Quantitative	
Interpretive Tables .....	54
C — Analytical Writing Topics, Sample Scored	
Essay Responses at Selected Score Points,	
and Reader Commentary .....	56
Answer Sheets .....	63

## Purpose of the GRE General Test

The GRE General Test is designed to help graduate school admission committees and fellowship sponsors assess the qualifications of applicants to their programs. It measures verbal, quantitative, and analytical writing skills that you have acquired over a long period of time.

Any accredited graduate or professional school, or any department or division within a school, may require or recommend that its applicants take the GRE General Test. The scores can be used by admissions or fellowship panels to supplement undergraduate records and other qualifications for graduate study. The scores provide common measures for comparing the qualifications of applicants and aid in the evaluation of grades and recommendations.

## Structure of the GRE General Test

The paper-based GRE General Test contains five sections. In addition, one unidentified pretest section may be included and this section can appear in any position in the test after the analytical writing section. Questions in the pretest section are being pretested for possible use in future tests and answers will not count toward your scores.

Total testing time is up to  $3\frac{3}{4}$  hours. The directions at the beginning of each section specify the total number of questions in the section and the time allowed for the section. The analytical writing section will always be first. The verbal and quantitative sections may appear in any order, including an unidentified verbal or quantitative pretest section. Treat each section presented during your test as if it counts.

## Typical Paper-Based GRE General Test Sections

Section	Number of Questions	Time
Analytical Writing	1 Issue task*	45 min.
	1 Argument task*	30 min.
Verbal (2 sections)	38 per section	30 min. per section
Quantitative (2 sections)	30 per section	30 min. per section
Pretest**	Varies	30 min.

\* For the Issue task, two essay topics will be presented and you will choose one. The Argument task does not present a choice of topics; instead, one topic will be presented.

\*\* An unidentified verbal or quantitative pretest section may be included and may appear in any order after the analytical writing section.

## Scores Reported

Three scores are reported on the General Test:

1. a verbal score reported on a 200–800 score scale, in 10-point increments,
2. a quantitative score reported on a 200–800 score scale, in 10-point increments, and
3. an analytical writing score reported on a 0–6 score scale, in half-point increments.

If you answer no questions at all in a section (verbal, quantitative, or analytical writing), that section will be reported as a No Score (NS).

Descriptions of the analytical writing abilities characteristic of particular score levels are available in the interpretive leaflet enclosed with your score report, in the *Guide to the Use of GRE Scores*, and on the GRE Web site at [www.gre.org](http://www.gre.org).

## Preparing for the GRE General Test

Preparation for the test will depend on the amount of time you have available and your personal preferences for how to prepare. At a minimum, before you take the GRE General Test, you should know what to expect from the test, including the administrative procedures, types of questions and directions, the approximate number of questions, and the amount of time for each section.

The administrative procedures include registration, date, time, test center location, cost, score-reporting procedures, and availability of special testing arrangements. You can find out about the

administrative procedures for the paper-based General Test online at [www.gre.org](http://www.gre.org), or by contacting Educational Testing Service (see the *GRE Information and Registration Bulletin*).

Before taking the practice General Test, it is important to become familiar with the content of each of the sections of the test. You can become familiar with the verbal and quantitative sections by reading about the skills the sections measure, how the sections are scored, reviewing the strategies for each of the question types, and reviewing the sample questions with explanations. Determine which strategies work best for you. Remember—you can do very well on the test without answering every question in each section correctly.

Everyone—even the most practiced and confident of writers—should spend some time preparing for the analytical writing section before arriving at the test center. It is important to review the skills measured, how the section is scored, scoring guides and score level descriptions, sample topics, scored sample essay responses, and reader commentary.

To help you prepare for the analytical writing section of the General Test, the GRE Program has published the entire pool of topics from which your test topics will be selected. You might find it helpful to review the Issue and Argument pools. You can view the published pools on the Web at [www.gre.org/pracmats.html](http://www.gre.org/pracmats.html) or obtain a copy by writing to **GRE Program, PO Box 6000, Princeton, NJ 08541-6000**.

The topics in the analytical writing section relate to a broad range of subjects—from the fine arts and humanities to the social and physical sciences—but no topic requires specific content knowledge. In fact, each topic has been field-tested to ensure that it possesses several important characteristics, including the following:

- GRE test takers, regardless of their field of study or special interests, understood the topic and could easily discuss it.
- The topic elicited the kinds of complex thinking and persuasive writing that university faculty consider important for success in graduate school.
- The responses were varied in content and in the way the writers developed their ideas.

## Test-Taking Strategies

**IMPORTANT NOTE:** Test-taking strategies appropriate for the verbal and quantitative sections of the paper-based General Test are different from those that are appropriate for taking the verbal and quantitative sections of the computer-based General Test. Be sure to follow the appropriate strategies for the testing format in which you will be testing. Paper-based testing strategies should not be used if you take the computer-based test.

### Verbal and Quantitative Sections

When taking a verbal or quantitative section of the paper-based General Test, you are free, within any section, to skip questions that you might have difficulty answering and to come back to them later during the time provided to work on that section. You may also change the answer to any question you recorded on the answer sheet by erasing it completely and filling in the oval corresponding to your desired answer for that question.

Each of your scores will be determined by the number of questions for which you select the best answer from the choices given. Questions for which you mark no answer or more than one answer are not counted in scoring. Nothing is subtracted from a score if you answer a question incorrectly. Therefore, to maximize your scores on the verbal and quantitative sections of the paper-based test, it is better for you to answer each and every question and not to leave any questions unanswered.

Work as rapidly as you can without being careless. This includes checking frequently to make sure you are marking your answers in the appropriate rows on your answer sheet. Since no question carries greater weight than any other, do not waste time pondering individual questions you find extremely difficult or unfamiliar.

You may want to work through a verbal or quantitative section of the General Test quite rapidly, first answering only the questions about which you feel confident, then going back and answering questions that require more thought, and concluding with the most difficult questions if there is time.

During the actual administration of the General

Test, you may work only on the section the test center supervisor designates and only for the time allowed. You may *not* go back to an earlier section of the test after the supervisor announces, “Please stop work” for that section. The supervisor is authorized to dismiss you from the center for doing so. All answers must be recorded on your answer sheet. Answers recorded in your test booklet will not be counted. Given the time constraints, you should avoid waiting until the last five minutes of a test administration to record answers on your answer sheet.

Some questions on the General Test have only four response options (A through D). All GRE answer sheets for the paper-based test contain response positions for five responses (A through E). Therefore, if an E response is marked for a four-option question, it will be ignored. An E response for a four-option question is treated the same as no response (omitted).

### Analytical Writing Section

In the paper-based General Test, the topics in the analytical writing section will be presented in the test book and you will handwrite your essay responses on the answer sheets provided. Make sure you use the correct answer sheet for each task.

It is important to budget your time. Within the 45-minute time limit for the Issue task, you will need to allow sufficient time to choose one of the two topics, think about the issue you’ve chosen, plan a response, and compose your essay. Within the 30-minute time limit for the Argument task, you will need to allow sufficient time to analyze the argument, plan a critique, and compose your response. Although GRE readers understand the time constraints under which you write and will consider your response a “first draft,” you still want it to be the best possible example of your writing that you can produce under the testing circumstances.

Save a few minutes at the end of each timed task to check for obvious errors. Although an occasional spelling or grammatical error will not affect your score, severe and persistent errors will detract from the overall effectiveness of your writing and thus lower your score.

During the actual administration of the General Test, you may work only on the particular writing task the test center supervisor designates and only for the time allowed. You may *not* go back to an earlier

section of the test after the supervisor announces, “Please stop work,” for that task. The supervisor is authorized to dismiss you from the center for doing so. Following the analytical writing section, you will have the opportunity to take a 10-minute break.

## Review of the Verbal Section

### Overview

The **verbal** section measures your ability to analyze and evaluate written material and synthesize information obtained from it, to analyze relationships among component parts of sentences, to recognize relationships between words and concepts, and to reason with words in solving problems. There is a balance of passages across different subject matter areas: humanities, social sciences, and natural sciences.

The verbal section contains the following question types:

- Antonyms
- Analogies
- Sentence Completions
- Reading Comprehension Questions

### How the Verbal Section is Scored

Scoring of the verbal section of the paper-based General Test is essentially a two-step process. First, a raw score is computed. The raw score is the number of questions for which the best answer choice was given. The raw score is then converted to a scaled score through a process known as equating. The equating process accounts for differences in difficulty among the different test editions; thus, a given scaled score reflects approximately the same level of ability regardless of the edition of the test that was taken.

### Antonyms

Antonyms measure your

- vocabulary
- ability to reason from a given concept to its opposite

### Directions\*

Each question below consists of a word printed in capital letters followed by five lettered words or phrases. Choose the lettered word or phrase that is most nearly *opposite* in meaning to the word in capital letters. Since some of the questions require you to distinguish fine shades of meaning, be sure to consider all the choices before deciding which one is best.

### Sample Question

DIFFUSE:

- (A) concentrate
- (B) contend
- (C) imply
- (D) pretend
- (E) rebel

### Strategies for Answering

- Remember that antonyms are generally confined to nouns, verbs, and adjectives.
- Look for the word that is most nearly opposite to the given word.
- Try to define words precisely.
- Make up a sentence using the given word to help establish its meaning.
- Look for possible second meanings before choosing an answer.
- Use your knowledge of prefixes and suffixes to help define words you don’t know.

### Answer

The best answer is (A). *Diffuse* means to permit or cause to spread out; only (A) presents an idea that is in any way opposite to *diffuse*.

### Analogies

Analogies measure your ability to recognize

- relationships among words and concepts they represent
- parallel relationships

### Directions\*

In each of the following questions, a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

\* The directions are presented as they appear on the actual test.

### Sample Question

COLOR : SPECTRUM :

- (A) tone : scale
- (B) sound : waves
- (C) verse : poem
- (D) dimension : space
- (E) cell : organism

### Strategies for Answering

- Establish a relationship between the given pair before reading the answer choices.
- Consider relationships of kind, size, spatial contiguity, or degree.
- Read all of the options. If more than one seems correct, try to state the relationship more precisely.
- Check to see that you haven't overlooked a possible second meaning for one of the words.
- *Never* decide on the best answer without reading all of the answer choices.

### Answer

The relationship between *color* and *spectrum* is not merely that of part to whole, in which case (E) or even (C) might be defended as correct. A *spectrum* is made up of a progressive, graduated series of *colors*, as a *scale* is of a progressive, graduated sequence of *tones*. Thus, (A) is the correct answer choice. In this instance, the best answer must be selected from a group of fairly close choices.

### Sentence Completions

Sentence completions measure your ability to recognize words or phrases that both logically and stylistically complete the meaning of a sentence.

#### Directions\*

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five lettered words or sets of words. Choose the word or set of words for each blank that *best* fits the meaning of the sentence as a whole.

### Sample Question

Early \_\_\_\_\_ of hearing loss is \_\_\_\_\_ by the fact that the other senses are able to compensate for moderate amounts of loss, so that people frequently do not know that their hearing is imperfect.

- (A) discovery . . indicated
- (B) development . . prevented
- (C) detection . . complicated
- (D) treatment . . facilitated
- (E) incidence . . corrected

### Strategies for Answering

- Read the incomplete sentence carefully.
- Look for key words or phrases.
- Complete the blank(s) with your own words; see if any options are like yours.
- Pay attention to grammatical cues.
- If there are two blanks, be sure that both parts of your answer choice fit logically and stylistically into the sentence.
- After choosing an answer, read the sentence through again to see if it makes sense.

### Answer

The statement that the other senses compensate for partial loss of hearing indicates that the hearing loss is not *prevented* or *corrected*; therefore, choices (B) and (E) can be eliminated. Furthermore, the ability to compensate for hearing loss certainly does not facilitate the early *treatment* (D) or the early *discovery* (A) of hearing loss. It is reasonable, however, that early *detection* of hearing loss is *complicated* by the ability to compensate for it. The best answer is (C).

### Reading Comprehension Questions

Reading comprehension questions measure your ability to

- read with understanding, insight, and discrimination
- analyze a written passage from several perspectives

Passages are taken from the humanities, social sciences, and natural sciences.

#### Directions\*

The passage is followed by questions based on its content. After reading the passage, choose the best answer to each question. Answer all questions following the passage on the basis of what is *stated* or *implied* in the passage.

\* The directions are presented as they appear on the actual test.

## Sample Question

Picture-taking is a technique both for annexing the objective world and for expressing the singular self. Photographs depict objective realities that already exist, though only the camera can disclose them. And they

- (5) depict an individual photographer's temperament, discovering itself through the camera's cropping of reality. That is, photography has two antithetical ideals: in the first, photography is about the world, and the photographer is a mere observer who counts for little; but in the
- (10) second, photography is the instrument of intrepid, questing subjectivity and the photographer is all.

- These conflicting ideals arise from a fundamental uneasiness on the part of both photographers and viewers of photographs toward the aggressive component in
- (15) "taking" a picture. Accordingly, the ideal of a photographer as observer is attractive because it implicitly denies that picture-taking is an aggressive act. The issue, of course, is not so clear-cut. What photographers do cannot be characterized as simply predatory or as simply,
- (20) and essentially, benevolent. As a consequence, one ideal of picture-taking or the other is always being rediscovered and championed.

- An important result of the coexistence of these two ideals is a recurrent ambivalence toward photography's
- (25) means. Whatever the claims that photography might make to be a form of personal expression on a par with painting, its originality is inextricably linked to the powers of a machine. The steady growth of these powers has made possible the extraordinary informativeness and
- (30) imaginative formal beauty of many photographs, like Harold Edgerton's high-speed photographs of a bullet hitting its target or of the swirls and eddies of a tennis stroke. But as cameras become more sophisticated, more automated, some photographers are tempted to disarm
- (35) themselves or to suggest that they are not really armed, preferring to submit themselves to the limits imposed by premodern camera technology because a cruder, less high-powered machine is thought to give more interesting or emotive results, to leave more room for creative
- (40) accident. For example, it has been virtually a point of honor for many photographers, including Walker Evans and Cartier-Bresson, to refuse to use modern equipment. These photographers have come to doubt the value of the camera as an instrument of "fast seeing." Cartier-Bresson,
- (45) in fact, claims that the modern camera may see too fast.

- This ambivalence toward photographic means determines trends in taste. The cult of the future (of faster and faster seeing) alternates over time with the wish to return to a purer past — when images had a handmade quality.
- (50) This nostalgia for some pristine state of the photographic enterprise is currently widespread and underlies the present-day enthusiasm for daguerreotypes and the work of forgotten nineteenth-century provincial photographers. Photographers and viewers of photographs, it seems, need
- (55) periodically to resist their own knowingness.

According to the passage, the two antithetical ideals of photography differ primarily in the

- (A) value that each places on the beauty of the finished product
- (B) emphasis that each places on the emotional impact of the finished product
- (C) degree of technical knowledge that each requires of the photographer
- (D) extent of the power that each requires of the photographer's equipment
- (E) way in which each defines the role of the photographer

## Strategies for Answering

- Read the passage closely, then proceed to the questions.  
*or*  
Skim the passage, then reread the passage closely as you answer the questions. You may want to try it both ways with sample questions to see what works best for you.
- Answer questions based on the content of the passage.
- Separate main ideas from supporting ideas.
- Separate the author's own ideas from information being presented.
- Ask yourself...
  - What is this about?
  - What are the key points?
  - How does the main idea relate to other ideas in the passage?
  - What words define relationships among ideas?

## Answer

The best answer to this question is (E). Photography's two ideals are presented in lines 7–11. The main emphasis in the description of these two ideals is on the relationship of the photographer to the enterprise of photography, with the photographer described in the one as a passive observer and in the other as an active questioner. (E) identifies this key feature in the description of the two ideals—the way in which each ideal conceives or defines the role of the photographer in photography. (A) through (D) present aspects of photography that are mentioned in the passage, but none of these choices represents a primary difference between the two ideals of photography.



# Review of the Quantitative Section

## Overview

The **quantitative** section measures your basic mathematical skills, your understanding of elementary mathematical concepts, and your ability to reason quantitatively and solve problems in a quantitative setting. There is a balance of questions requiring arithmetic, algebra, geometry, and data analysis. These are content areas usually studied in high school.

### Arithmetic

Questions may involve arithmetic operations, powers, operations on radical expressions, estimation, percent, absolute value, properties of integers (e.g., divisibility, factoring, prime numbers, odd and even integers), and the number line.

### Algebra

Questions may involve rules of exponents, factoring and simplifying algebraic expressions, understanding concepts of relations and functions, equations and inequalities, solving linear and quadratic equations and inequalities, solving simultaneous equations, setting up equations to solve word problems, coordinate geometry, including slope, intercepts, and graphs of equations and inequalities, and applying basic algebra skills to solve problems.

### Geometry

Questions may involve parallel lines, circles, triangles (including isosceles, equilateral, and  $30^\circ$ – $60^\circ$ – $90^\circ$  triangles), rectangles, other polygons, area, perimeter, volume, the Pythagorean Theorem, and angle measure in degrees. The ability to construct proofs is not measured.

### Data Analysis

Questions may involve elementary probability, basic descriptive statistics (mean, median, mode, range, standard deviation, percentiles), and interpretation of data in graphs and tables (line graphs, bar graphs, circle graphs, frequency distributions).

## Math Symbols and Other Information

The following information applies to all questions in the quantitative sections.

- These common math symbols may be used:
  - $x < y$  (x is less than y)
  - $x \neq y$  (x is not equal to y)
  - $\sqrt{x}$  (the nonnegative square root of x, where  $x \geq 0$ )
  - $|x|$  (the absolute value of x, where x is a real number)
  - $n!$  (n factorial: the product of the first n positive integers)
  - $m \parallel n$  (line m is parallel to line n)
  - $m \perp n$  (line m is perpendicular to line n)



- Numbers: all numbers used are real numbers.
- Figures:
  - the positions of points, angles, regions, etc., can be assumed to be in the order shown; angle measures are positive
  - a line shown as straight can be assumed to be straight
  - figures lie in a plane unless otherwise indicated
  - do not assume figures are drawn to scale unless stated

It is important to familiarize yourself with the basic mathematical concepts in the GRE General Test. The publication *Math Review* is available as a download on the GRE Web site at [www.gre.org/pracmats.html](http://www.gre.org/pracmats.html) and provides detailed information on the content of the quantitative section.

The quantitative section contains the following question types:

- Quantitative Comparison Questions
- Problem Solving – Discrete Quantitative Questions
- Problem Solving – Data Interpretation Questions

Questions emphasize understanding basic principles and reasoning within the context of given information.

## How the Quantitative Section is Scored

The quantitative section of the paper-based General Test is scored the same way as the verbal section. First, a raw score is computed. The raw score is the number of questions for which the best answer choice was given. The raw score is then converted to a scaled score through a process known as equating. The equating process accounts for differences in difficulty among the different test editions; thus a given scaled score reflects approximately the same level of ability regardless of the edition of the test that was taken.

## Quantitative Comparison Questions

Quantitative comparison questions measure your ability to:

- reason quickly and accurately about the relative sizes of two quantities
- perceive that not enough information is provided to make such a decision

### Directions\*

Each of the sample questions consists of two quantities, one in Column A and one in Column B. There may be additional information, centered above the two columns, that concerns one or both of the quantities. A symbol that appears in both columns represents the same thing in Column A as it does in Column B.

You are to compare the quantity in Column A with the quantity in Column B and decide whether:

(A) The quantity in Column A is greater.  
(B) The quantity in Column B is greater.  
(C) The two quantities are equal.  
(D) The relationship cannot be determined from the information given.

Note: Since there are only four choices, NEVER MARK (E).\*\*

### Sample Questions

	<u>Column A</u>	<u>Column B</u>
1.	9.8	$\sqrt{100}$
2.	$(-6)^4$	$(-6)^5$

## Strategies for Answering

- Avoid extensive computation if possible. Try to estimate the answer.
- Consider all kinds of numbers before deciding. If under some conditions Column A is greater than Column B and for others, Column B is greater than Column A, choose “the relationship cannot be determined from the information given,” and go to the next question.
- Geometric figures may not be drawn to scale. Comparisons should be made based on the given information, together with your knowledge of mathematics, rather than on exact appearance.

### Answer to Question 1

$\sqrt{100}$  denotes 10, the positive square root of 100. (For any positive number  $x$ ,  $\sqrt{x}$  denotes the *positive* number whose square is  $x$ .) Since 10 is greater than 9.8, the best answer is (B). It is important not to confuse this question with a comparison of 9.8 and  $x$  where  $x^2 = 100$ . The latter comparison would yield (D) as the correct answer because  $x^2 = 100$  implies that either  $x = 10$  or  $x = -10$ , and there would be no way to determine which value  $x$  would actually have.

### Answer to Question 2

Since  $(-6)^4$  is the product of four negative factors, and the product of an even number of negative numbers is positive,  $(-6)^4$  is positive. Since the product of an odd number of negative numbers is negative,  $(-6)^5$  is negative. Therefore,  $(-6)^4$  is greater than  $(-6)^5$  since any positive number is greater than any negative number. The best answer is (A). It is not necessary to calculate that  $(-6)^4 = 1,296$  and that  $(-6)^5 = -7,776$  in order to make the comparison.

## Problem Solving – Discrete Quantitative Questions

Discrete quantitative questions measure

- basic mathematical knowledge
- your ability to read, understand, and solve a problem that involves either an actual or an abstract situation

### Directions\*

Each of the following questions has five answer choices. For each of these questions, select the best of the answer choices given.

\* The directions are presented as they appear on the actual test.

\*\* The answer sheet contains five choices for the verbal and quantitative sections.

### Sample Question

When walking, a certain person takes 16 complete steps in 10 seconds. At this rate, how many complete steps does the person take in 72 seconds?

- (A) 45
- (B) 78
- (C) 86
- (D) 90
- (E) 115

#### Strategies for Answering

- Determine what is given and what is being asked.
- Scan all answer choices before answering a question.
- When approximation is required, scan answer choices to determine the degree of approximation.
- Avoid long computations. Use reasoning instead, when possible.

#### Answer

72 seconds represents 7 ten-second intervals plus  $\frac{2}{10}$  of such an interval. Therefore, the person who takes 16 steps in 10 seconds will take  $(7.2)(16)$  steps in 72 seconds.

$$\begin{aligned}(7.2)(16) &= (7)(16) + (0.2)(16) \\ &= 112 + 3.2 \\ &= 115.2\end{aligned}$$

Since the question asks for the number of complete steps, the best answer choice is (E).

### Problem Solving – Data Interpretation Questions

Data interpretation questions measure your ability

- to synthesize information and select appropriate data for answering a question
- to determine that sufficient information for answering a question is not provided

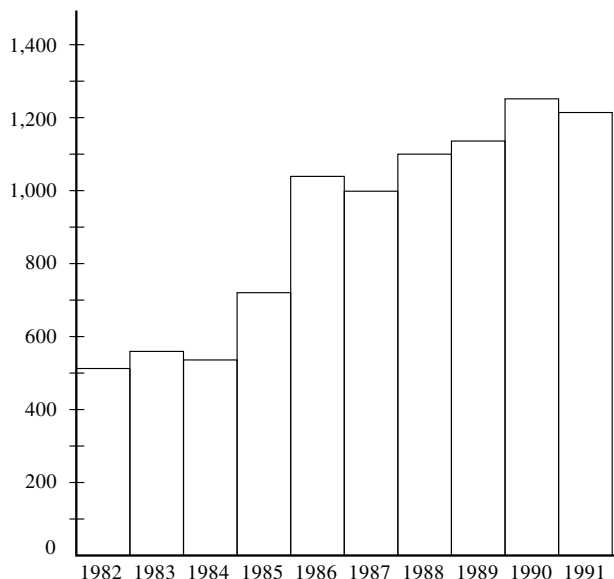
The data interpretation questions usually appear in sets and are based on data presented in tables, graphs, or other diagrams.

#### Directions\*

Each of the following questions has five answer choices. For each of these questions, select the best of the answer choices given.

### Sample Question

**Number of Graduate Student Applicants at University X, 1982–1991**



In which of the following years did the number of graduate student applicants increase the most from that of the previous year?

- (A) 1985
- (B) 1986
- (C) 1988
- (D) 1990
- (E) 1991

#### Strategies for Answering

- Scan the set of data to see what it is about.
- Try to make visual comparisons and estimate products and quotients rather than perform computations.
- Answer questions only on the basis of data given.

#### Answer

This question can be answered directly by visually comparing the heights of the bars in the graph. The greatest increase in height between two adjacent bars occurs for the years 1985 and 1986. The best answer is (B).

\* The directions are presented as they appear on the actual test.

# Review of the Analytical Writing Section

## Overview

The **analytical writing** section tests your critical thinking and analytical writing skills. It assesses your ability to articulate and support complex ideas, analyze an argument, and sustain a focused and coherent discussion. It does not assess specific content knowledge.

The analytical writing section consists of two separately-timed analytical writing tasks:

- a 45-minute “Present Your Perspective on an Issue” task
- a 30-minute “Analyze an Argument” task

You will be given a choice between two Issue topics. Each states an opinion on an issue of broad interest and asks you to discuss the issue from any perspective(s) you wish, as long as you provide relevant reasons and examples to explain and support your views.

You will not have a choice of Argument topics. The Argument task presents a different challenge from that of the Issue task: it requires you to critique a given argument by discussing how well reasoned you find it. You will need to consider the logical soundness of the argument rather than to agree or disagree with the position it presents.

The two tasks are complementary in that one requires you to construct your own argument by taking a position and providing evidence supporting your views on the issue, whereas the other requires you to critique someone else’s argument by assessing its claims and evaluating the evidence it provides.

## How the Analytical Writing Section is Scored

Each response is holistically scored on a 6-point scale according to the criteria published in the GRE analytical writing scoring guides (see Appendix A on pages 51–52). Holistic scoring means that each response is judged as a whole: readers do not separate the response into component parts and award a certain number of points for a particular criterion or element such as ideas, organization, sentence structure, or language. Instead, readers assign scores based on the overall quality of the response, considering all of its characteristics in an integrated way. Excellent

organization or poor organization, for example, will be part of the readers’ overall impression of the response and will therefore contribute to the score, but organization, as a distinct feature, has no specific weight.

In general, GRE readers are college and university faculty experienced in teaching courses in which writing and critical thinking skills are important. All GRE readers have undergone careful training, passed stringent GRE qualifying tests, and demonstrated that they are able to maintain scoring accuracy.

To ensure fairness and objectivity in scoring

- responses are randomly distributed to the readers
- all identifying information about the test takers is concealed from the readers
- each response is scored by two readers
- readers do not know what other scores a response may have received
- the scoring procedure requires that each response receive identical or adjacent scores from two readers; any other score combination is adjudicated by a third GRE reader

The scores given for the two tasks are then averaged for a final reported score. The score level descriptions, presented in Appendix A on page 53, provide information on how to interpret the total score on the analytical writing section. The primary emphasis in scoring the analytical writing section is on critical thinking and analytical writing skills.

Note: The GRE Program is investigating the use of e-rater, ETS’s ground breaking automated scoring system, as part of the scoring process for the analytical writing section. If e-rater is incorporated into the scoring process during the 2004-05 testing year, information will be available on the GRE Web site at [www.gre.org](http://www.gre.org).

Your essay responses on the analytical writing section will be reviewed by ETS essay-similarity-detection software and by experienced essay readers during the scoring process. In light of the high value placed on independent intellectual activity within United States graduate schools and universities, ETS reserves the right to cancel test scores of any test taker when there is substantial evidence that an essay response includes, but is not limited to, any of the following:

- text that is substantially similar to that found on one or more other GRE essay responses;

- quoting or paraphrasing, without attribution, language, or ideas that appear in published or unpublished sources;
- unacknowledged use of work that has been produced through collaboration with others without citation of the contribution of others;
- essays that are submitted as work of the examinee when the ideas or words have, in fact, been borrowed from elsewhere or prepared by another person.

When one or more of these circumstances occurs, your essay text, in ETS’s professional judgement, does not reflect the independent, analytical writing skills that this test seeks to measure. Therefore, ETS must cancel the essay score as invalid and cannot report the GRE General Test scores of which the essay score is an indispensable part.

Test takers whose scores are canceled will forfeit their test fees and must pay to take the entire GRE General Test again at a future administration. No record of score cancellations, or the reason for cancellation, will appear on their future score reports sent to colleges and universities.

## Present Your Perspective on an Issue Task

The “Present Your Perspective on an Issue” task assesses your ability to think critically about a topic of general interest and to clearly express your thoughts about it in writing. Each topic, presented in quotation marks, makes a claim about an issue that test takers can discuss from various perspectives and apply to many different situations or conditions. Your *task* is to present a compelling case for your own position on the issue. Be sure to read the claim carefully and think about it from several points of view, considering the complexity of ideas associated with those perspectives. Then, make notes about the position you want to develop and list the main reasons and examples that you could use to support that position.

The Issue task allows considerable latitude in the way you respond to the claim. Although it is important that you address the central issue, you are free to take any approach you wish. For example, you might

- agree absolutely with the claim, disagree completely, or agree with some parts and not others
- question the assumptions the statement seems to be making
- qualify any of its terms, especially if the way you define or apply a term is important to developing your perspective on the issue

- point out why the claim is valid in some situations but not in others
- evaluate points of view that contrast with your own perspective
- develop your position with reasons that are supported by several relevant examples or by a single extended example

The GRE readers scoring your response are not looking for a “right” answer—in fact, there is no correct position to take. Instead, the readers are evaluating the skill with which you articulate and develop an argument to support your position on the issue.

### Understanding the Context for Writing: Purpose and Audience

The Issue task is an exercise in critical thinking and persuasive writing. The purpose of this task is to determine how well you can develop a compelling argument supporting your own perspective on an issue and to effectively communicate that argument in writing to an academic audience. Your audience consists of college and university faculty who are trained as GRE readers to apply the scoring criteria identified in the scoring guide for “Present Your Perspective on an Issue” (see page 51).

To get a clearer idea of how GRE readers apply the Issue scoring criteria to actual responses, you should review scored sample Issue essay responses and readers’ commentaries. The sample responses, particularly at the 5 and 6 score levels, will show you a variety of successful strategies for organizing, developing, and communicating a persuasive argument. The readers’ commentaries discuss specific aspects of analysis and writing, such as the use of examples, development and support, organization, language fluency, and word choice. For each response, the commentary points out aspects that are particularly persuasive as well as any that detract from the overall effectiveness of the essay.

### Preparing for the Issue Task

Because the Issue task is meant to assess the persuasive writing skills that you have developed throughout your education, it has been designed neither to require any particular course of study nor to advantage students with a particular type of training.

Many college textbooks on composition offer advice on persuasive writing that you might find useful, but even this advice might be more technical

and specialized than you need for the Issue task. You will not be expected to know specific critical thinking or writing terms or strategies; instead, you should be able to use reasons, evidence, and examples to support your position on an issue. Suppose, for instance, that an Issue topic asks you to consider whether it is important for government to provide financial support for art museums. If your position is that government should fund art museums, you might support your position by discussing the reasons art is important and explain that museums are public places where art is available to anyone. On the other hand, if your position is that government should not support museums, you might point out that, given limited governmental funds, art museums are not as deserving of governmental funding as are other, more socially important, institutions. Or, if you are in favor of government funding for art museums only under certain conditions, you might focus on the artistic criteria, cultural concerns, or political conditions that you think should determine how—or whether—art museums receive government funds. It is not your position that matters so much as the critical thinking skills you display in developing your position.

An excellent way to prepare for the Issue task is to practice writing on some of the published topics. There is no “best” approach: some people prefer to start practicing without regard to the 45-minute time limit; others prefer to take a “timed test” first and practice within the time limit. No matter which approach you take when you practice the Issue task, you should review the task directions, then

- carefully read the claim made in the topic and make sure you understand the issue involved; if it seems unclear, discuss it with a friend or teacher
- think about the issue in relation to your own ideas and experiences, to events you have read about or observed, and to people you have known; this is the knowledge base from which you will develop compelling reasons and examples in your argument that reinforce, negate, or qualify the claim in some way
- decide what position on the issue you want to take and defend—remember you are free to agree or disagree completely or to agree with some parts or some applications but not others
- decide what compelling evidence (reasons and examples) you can use to support your position

Remember that this is a task in critical thinking and persuasive writing. Therefore, you might find it helpful to explore the complexity of a claim in one of the topics by asking yourself the following questions:

- What, precisely, is the central issue?
- Do I agree with all or with any part of the claim? Why or why not?
- Does the claim make certain assumptions? If so, are they reasonable?
- Is the claim valid only under certain conditions? If so, what are they?
- Do I need to explain how I interpret certain terms or concepts used in the claim?
- If I take a certain position on the issue, what reasons support my position?
- What examples—either real or hypothetical—could I use to illustrate those reasons and advance my point of view? Which examples are most compelling?

Once you have decided on a position to defend, consider the perspective of others who might not agree with your position. Ask yourself:

- What reasons might someone use to refute or undermine my position?
- How should I acknowledge or defend against those views in my essay?

To plan your response, you might want to summarize your position and make brief notes about how you will support the position you’re going to take. When you’ve done this, look over your notes and decide how you will organize your response. Then write a response developing your position on the issue. Even if you don’t write a full response, you should find it helpful to practice with a few of the Issue topics and to sketch out your possible responses. After you have practiced with some of the topics, try writing responses to some of the topics within the 45-minute time limit so that you have a good idea of how to use your time in the actual test.

Next, compare your response to the scoring guide. Focus on seeing how your paper meets or misses the performance standards and what you therefore need to do in order to improve.

### **Deciding Which Issue Topic to Choose**

Remember that the General Test will contain two Issue topics from the published pool; you must choose *one* of these two. Because the 45-minute timing begins when you first see the two topics, you should

not spend too much time making a decision. Instead, try to choose fairly quickly the issue that you feel better prepared to discuss.

Before making a choice, read each topic carefully. Then decide on which topic you could develop a more effective and well-reasoned argument. In making this decision, you might ask yourself:

- Which topic do I find more interesting or engaging?
- Which topic more closely relates to my own academic studies or other experiences?
- On which topic can I more clearly explain and defend my perspective?
- On which topic can I more readily think of strong reasons and examples to support my position?

Your answers to these questions should help you make your choice.

### The Form of Your Response

You are free to organize and develop your response in any way that you think will effectively communicate your ideas about the issue. Your response may, but need not, incorporate particular writing strategies learned in English composition or writing-intensive college courses. GRE readers will not be looking for a particular developmental strategy or mode of writing; in fact, when GRE readers are trained, they review hundreds of Issue responses that, although highly diverse in content and form, display similar levels of critical thinking and persuasive writing. Readers will see, for example, some Issue responses at the 6 score level that begin by briefly summarizing the writer's position on the issue and then explicitly announcing the main points to be argued. They will see others that lead into the writer's position by making a prediction, asking a series of questions, describing a scenario, or defining critical terms in the quotation. The readers know that a writer can earn a high score by giving multiple examples or by presenting a single, extended example. Look at the sample Issue responses, particularly at the 5 and 6 score levels, to see how other writers have successfully developed and organized their arguments.

You should use as many or as few paragraphs as you consider appropriate for your argument—for example, you will probably need to create a new paragraph whenever your discussion shifts to a new cluster of ideas. What matters is not the number of examples, the number of paragraphs, or the form your

argument takes but, rather, the cogency of your ideas about the issue and the clarity and skill with which you communicate those ideas to academic readers.

### Directions\*

Present your perspective on the issue below, using relevant reasons and/or examples to support your views.

### Sample Topic

“In our time, specialists of all kinds are highly overrated. We need more generalists—people who can provide broad perspectives.”

### Strategies for this Topic

This claim raises several related questions: What does it mean to be a generalist or a specialist, and what value do they have for society? Does society actually need more generalists, and are specialists, in fact, “highly overrated”?

There are several basic positions you could take on this issue: Yes, society needs more generalists and places too high a value on specialists. No, the opposite is true. Or, it depends on various factors. Or, both groups are important in today's culture; neither is overvalued. Your analysis might draw examples from a particular society or country, from one or more areas of society, or from various situations. It might focus on the role of generalists and specialists in relation to communications, transportation, politics, information, or technology. Any of these approaches is valid, as long as you use relevant reasons and examples to support your position.

Before you stake out a position, take a few moments to reread the claim. To analyze it, consider questions such as these:

- What are the main differences between specialists and generalists? What are the strong points of each?
- Do these differences always hold in various professions or situations? Could there be some specialists, for example, who also need to have very broad knowledge and general abilities to perform their work well?
- How do generalists and specialists function in your field?
- What value do you think society places on specialists and generalists? Are specialists overvalued in some situations, and not in others?

\* The directions are presented as they appear on the actual test.

- Does society really need more generalists than it has? If so, what needs would they serve?

Now you can organize your thoughts into two groups:

- Reasons and examples to support the claim
- Reasons and examples to support an opposing point of view

If you find one view clearly more persuasive than the other, consider developing an argument from that perspective. As you build your argument, keep in mind the other points, which you could argue against.

If both groups have compelling points, consider developing a position supporting, not the stated claim, but a more limited or more complex claim. Then you can use reasons and examples from both sides to justify your position.

### Essay Response\* – Score 6

In this era of rapid social and technological change leading to increasing life complexity and psychological displacement, both positive and negative effects among persons in Western society call for a balance in which there are both specialists and generalists.

Specialists are necessary in order to allow society as a whole to properly and usefully assimilate the masses of new information and knowledge that have come out of research and have been widely disseminated through mass global media. As the head of Pharmacology at my university once said (and I paraphrase): “I can only research what I do because there are so many who have come before me to whom I can turn for basic knowledge. It is only because of each of the narrowly focussed individuals at each step that a full and true understanding of the complexities of life can be had. Each person can only hold enough knowledge to add one small rung to the ladder, but together we can climb to the moon.” This illustrates the point that our societies level of knowledge and technology is at a stage in which there simply must be specialists in order for our society to take advantage of the information available to us.

Simply put, without specialists, our society would find itself bogged down in the Sargasso sea of information overload. While it was fine for early physicists to learn and understand the few laws and ideas that existed during their times, now, no one individual can possibly digest and assimilate all of the knowledge in any given area.

On the other hand, Over specialization means narrow focii in which people can lose the larger picture. No one can hope to understand the human body by only inspecting one’s own toe-nails. What we learn from a narrow focus may be internally logically coherent but may be irrelevant or fallacious within the framework of a broader perspective. Further, if we inspect only our toe-nails, we may conclude that the whole body is hard and white. Useful conclusions and thus perhaps useful inventions must come by sharing among specialists. Simply throwing out various discoveries means we have a pile of useless discoveries, it is only when one can make with them a mosaic that we can see that they may form a picture.

Not only may over-specialization be dangerous in terms of the truth, purity and cohesion of knowledge, but it can also serve to drown moral or universal issues. Generalists and only generalists can see a broad enough picture to realize and introduce to the world the problems of the environment. With specialization, each person focusses on their research and their goals. Thus, industrialization, expansion, and new technologies are driven ahead. Meanwhile no individual can see the wholistic view of our global existence in which true advancement may mean stifling individual specialists for the greater good of all.

Finally, over-specialization in a people’s daily lives and jobs has meant personal and psychological compartmentalization. People are forced into pigeon holes early in life (at least by university) and must consciously attempt to consume external forms of stimuli and information in order not to be lost in their small and isolated universe. Not only does this make for narrowly focussed and generally poorly-educated individuals, but it guarantees a sense of loss of community, often followed by a feeling of psychological displacement and personal dissatisfaction.

Without generalists, society becomes inward-looking and eventually inefficient. Without a society that recognizes the importance of broad-mindedness and fora for sharing generalities, individuals become isolated. Thus, while our form of society necessitates specialists, generalists are equally important. Specialists drive us forward in a series of thrusts while generalists make sure we are still on the jousting field and know what the stakes are.

---

\* All responses in this publication are reproduced exactly as written, including errors, misspellings, etc., if any.



## Reader Commentary for Essay Response – Score 6

This is an outstanding analysis of the issue—insightful, well reasoned, and highly effective in its use of language. The introductory paragraph announces the writer’s position on the issue and provides the context within which the writer will develop that position: “In this era of rapid social and technological change leading to increasing life complexity and psychological displacement . . . .”

The argument itself has two parts. The first part presents a compelling case for specialization, primarily in the field of medicine. The second part presents an equally compelling, well-organized case against overspecialization based on three main reasons:

- logical (narrowly trained specialists often fail to understand the whole)
- moral (usually generalists understand what is needed for “the greater good”)
- personal (specializing/pigeonholing too early can be psychologically damaging)

The argument’s careful line of reasoning is further strengthened by the skillful use of expert testimony (quotation from a prominent medical researcher) and vivid metaphor (to inspect only one’s toenails is to ignore the whole body).

It is not only the reasoning that distinguishes this response. The language is precise and often figurative (“bogged down in a Sargasso sea of information overload,” “a pile of useless discoveries,” and “specialists drive us forward in a series of thrusts, while generalists make sure we are still on the jousting field”). The reader is constantly guided through the argument by transitional phrases and ideas that help organize the ideas and move the argument forward. This is an exceptionally fine response to the topic.

## Essay Response – Score 5

Specialists are not overrated today. More generalists may be needed, but not to overshadow the specialists. Generalists can provide a great deal of information on many topics of interest with a broad range of ideas. People who look at the overall view of things can help with some of the large problems our society faces today. But specialists are necessary to gain a better understanding of more in depth methods to solve problems or fixing things.

One good example of why specialists are not overrated is in the medical field. Doctors are necessary for people to live healthy lives. When a person is sick, he may go to a general practitioner to find out

the cause of his problems. Usually, this kind of “generalized” doctor can help most ailments with simple and effective treatments. Sometimes, though, a sickness may go beyond a family doctor’s knowledge or the prescribed treatments don’t work the way they should. When a sickness progresses or becomes diagnosed as a disease that requires more care than a family doctor can provide, he may be referred to a specialist. For instance, a person with constant breathing problems that require hospitalization may be suggested to visit an asthma specialist. Since a family doctor has a great deal of knowledge of medicine, he can decide when his methods are not effective and the patient needs to see someone who knows more about the specific problem; someone who knows how it begins, progresses, and specified treatments. This is an excellent example of how a generalied person may not be equipped enough to handle something as well as a specialized one can.

Another example of a specialist who is needed instead of a generalist involves teaching. In grammar school, children learn all the basic principles of reading, writing, and arithmetic. But as children get older and progress in school, they gain a better understanding of the language and mathematical processes. As the years in school increase, they need to learn more and more specifics and details about various subjects. They start out by learning basic math concepts such as addition, subtraction, division, and multiplication. A few years later, they are ready to begin algebraic concepts, geometry, and calculus. They are also ready to learn more advanced vocabulary, the principles of how all life is composed and how it functions. One teacher or professor can not provide as much in depth discussion on all of these topics as well as one who has learned the specifics and studied mainly to know everything that is currently known about one of these subjects. Generalized teachers are required to begin molding students at a very early age so they can get ready for the future ahead of them in gaining more facts about the basic subjects and finding out new facts on the old ones.

These are only two examples of why specialists are not highly overrated and more generalists are not necessary to the point of overshadowing them. Generalists are needed to give the public a broad understanding of some things. But , specialists are important to help maintain the status, health, and safety of our society. Specialists are very necessary.

### Reader Commentary for Essay Response – Score 5

This writer presents a well-developed analysis of the complexities of the issue by discussing the need for both the generalist and the specialist.

The argument is rooted in two extended examples, both well chosen. The first (paragraph 2) begins with a discussion of the necessity for medical generalists (the general practitioner) as well as specialists and moves into an example within the example (breathing problems and the need for an asthma specialist). This extension from the general to the specific characterizes the example in the next paragraph as well. There, the discussion centers on education from elementary to high school, from basic arithmetic to calculus.

The smooth development is aided by the use of appropriate transitions: “but,” “usually,” and “for instance,” among others. The essay ends by revisiting the writer’s thesis.

While the writer handles language and syntax well, several lapses in clarity keep this otherwise well-argued response out of the 6 category. The problems vary from the lack of a pronoun referent (“When a sickness progresses or becomes diagnosed, . . . he may be referred to a specialist”) to an error in parallel structure (“how it begins, progresses and specified treatments”), to loose syntax and imprecise language (“Generalized teachers are required to begin molding students at a very early age so they can get ready for the future ahead of them in gaining more facts about the basic subjects.”)

### Essay Response – Score 4

Specialists are just what their name says: people who specialize in one part of a very general scheme of things. A person can’t know everything there is to know about everything. This is why specialists are helpful. You can take one general concept and divide it up three ways and have three fully developed different concepts instead of one general concept that no one really knows about. Isn’t it better to really know something well, than to know everything half-way.

Take a special ed teacher compared to a general ed teacher. The general ed teacher knows how to deal with most students. She knows how to teach a subject to a student that is on a normal level. But what would happen to the child in the back of the room with dyslexia? She would be so lost in that general ed classroom that she would not only not

learn, but be frustrated and quite possibly, have low self-esteem and hate school. If there is a special ed teacher there who specializes in children with learning disabilities, she can teach the general ed teacher how to cope with this student as well as modify the curriculum so that the student can learn along with the others. The special ed teacher can also take that child for a few hours each day and work with her on her reading difficulty one-on-one, which a general ed teacher never would have time to do.

A general ed teacher can’t know what a special ed teacher knows and a special ed teacher can’t know what a general ed teacher knows. But the two of them working together and specializing in their own things can really get a lot more accomplished. The special ed teacher is also trained to work on the child’s self-esteem, which has a big part in how successful this child will be. Every child in the United States of America has the right to an equal education. How can a child with a learning disability receive the same equal education as a general ed student if there was no specialist there to help both teacher and child?

Another thing to consider is how a committee is supposed to work together. Each person has a special task to accomplish and when these people all come together, with their tasks finished, every aspect of the community’s work is completely covered. Nothing is left undone. In this case there are many different specialists to meet the general goal of the committee.

When you take into account that a specialist contributes only a small part of the generalist aspect, it seems ridiculous to say that specialists are overrated. The generalists looks to the specialists any time they need help or clarification on their broad aspect. Specialists and generalists are part of the same system, so if a specialist is overrated, then so is a generalist.

### Reader Commentary for Essay Response – Score 4

This is an adequate analysis of the issue. After a somewhat confusing attempt to define “specialists” in the introductory paragraph, the writer presents a pertinent example (the special education teacher) to illustrate the importance of specialists. The example dominates the response and contributes positively to the overall score of 4.

The second example, how a committee works, is less persuasive. However, it does seem to help clarify the writer’s definition of “general” as an umbrella term meaning the total collection of what specialists know about a topic.

Although the writer's views about the relationship between "generalist" and "specialist" are unusual, they do become clear in the conclusion of the essay. Yet, these ideas are not developed in sufficient depth or with enough logical control to earn a score higher than 4.

The writing is generally error free. There are few problems in sentence structure, grammar, and usage, although the phrasing is at times imprecise and wordy. Overall, this response displays clearly adequate control of the elements of written English.

### **Essay Response – Score 3**

To quote the saying, "Jack of all trades, master of none," would be my position on the statement. I feel specialists in all areas of knowledge lead to a higher standard of living for everyone. Specializing in different areas allows us to use each others talents to the highest level and maximize potential. As an example, if a person required brain surgery, would they rather have a brain surgeon or a general practitioner doing the work? Clearly a specialist would do the better job and give the patient a chance at a better life.

A university education starts by laying the groundwork for general knowledge but then narrows down to a specific field. General knowledge and a broad prospective are important, but if there was no focus on specific areas, our overall knowledge as a population would be seriously lessened.

Another example of specialists not being overated would be international trade. Not every nation can provide for themselves. They need to get products and ideas from other parts of the world because they are better at providing them. This allows for a growing economy if two different nations can provide each other with two different products. If one country can produce oranges better than another, it should trade the oranges for the fish that it can not produce. If generalizing was the normal thing to do and both countries tried to produce all kinds of products, the countries would probably survive, but not have the standard of living they presently have.

### **Reader Commentary for Essay Response – Score 3**

The writer's position is clear: specialists are important and necessary. However, the position is not adequately supported with reasons or logical examples.

Paragraph 1 presents an appropriate example of the brain surgeon versus the general practitioner. However, the example of an increasingly narrow university education in paragraph 2, contains only

two sentences and is seriously undeveloped. It does little to advance the writer's position.

Paragraph 3 offers yet another example, the most developed of all. Unfortunately, this example is not clearly logical. The writer tries to argue that the "specialist" country (one that is a better producer of oranges) is superior to the "generalist" country (presumably one that produces oranges as well as other products). This generalist country, the writer tells us, would be inferior to the other. This conclusion does not emerge logically from the writer's argument, and it seems to be at odds with everyday reality.

Although language is used with some imprecision throughout the essay, the writer's meaning is not obscured. The main reasons for the score of 3 are the lack of sufficient development and inappropriate use of examples.

### **Essay Response – Score 2**

In the situation of health I feel that specialists are very important. For example if a person has heart problems, choose a heart specialist over a genral medicine Dr. However if a person is having a wide range of syptoms, perhaps choose a Dr. with a wide range of experience might be more helpful.

It also depends on the type of problem you are having. For example I would not suggest taking a troubled child to a theorpist who specializes in marriage problems. In some cases have a specialists helps to insure that you are getting the best possibly treatment. On the other hand dealing with a person who has a wide range of experience may be able to find different ways of dealing with a particular problem.

Since the quotation did not state exactly what type of specialist we are dealing with it is also hard to determine the importance of having a specialist is. For example the could be health or problems with a car, or basically anything else. I feel that this information should not have been left out. I guess the bottom line is that I feel sometimes a specialist is very important.

### **Reader Commentary for Essay Response – Score 2**

This is a seriously flawed analysis of the issue. The response argues in favor of specialists, but neither the reasons nor the examples are persuasive. The example of not taking "a troubled child to see a therapist who specializes in marriage problems" is both simplistic and off the mark since it differentiates between two specialists, not between a generalist and a specialist.

The sentences are so poorly formed and phrased that the argument is at times hard to follow. Nevertheless, this is not a 1 essay: the writer presents a position on the issue, develops that position with some very weak analysis, and communicates some ideas clearly.

### Essay Response – Score 1

I disagree with the statement about specialists, we need specialists who take individual areas and specialize. A generalists can pinpoint a problem. He or she cannot determine the magnitude of the problem. A specialist can find the root of the problem. When he or she has years working in that specific field. For example, when i got sick i went to a doctor. He did blood work, x-ray, talk to me, ect. He prescribed me a medicine. I got worst. So i decided to go another doctor. Now, i am doing great. A specialist knows the facts right away. Otherwise, it will take longer or not at all.

### Reader Commentary for Essay Response – Score 1

This response presents a fundamentally deficient discussion of the issue.

The first sentence states the writer’s position in support of specialists, but that position is not followed by a coherent argument. Some of the ideas seem contradictory (e.g., “generalists can pinpoint a problem”) and the example is confusing. If the essay explained that the first (unsuccessful) doctor was a generalist and the second (successful) doctor was a specialist, the example would be useful. However, as written, the example is unclear and even misleading. The concluding statement only adds to the confusion.

Since most of the sentences are short and choppy, the ideas they try to communicate are also choppy. The writer needs to provide transitional phrases and ideas to bring logical cohesion to this response. Also, basic errors in usage and grammar are pervasive, but it is primarily the lack of a coherent argument that makes this response a 1.

## Analyze an Argument Task

The “Analyze an Argument” task assesses your ability to understand, analyze, and evaluate arguments and to clearly convey your analysis in writing. The task consists of a brief passage in which the author makes a case for some course of action or interpretation of events by presenting claims backed by reasons and evidence. Your task is to discuss the logical soundness

of the author’s case by critically examining the line of reasoning and the use of evidence. This task requires you to read the argument very carefully. You might want to read it more than once and possibly make brief notes about points you want to develop more fully in your response. In reading the argument, you should pay special attention to

- what is offered as evidence, support, or proof
- what is explicitly stated, claimed, or concluded
- what is assumed or supposed, perhaps without justification or proof
- what is not stated, but necessarily follows from what is stated

In addition, you should consider the *structure* of the argument—the way in which these elements are linked together to form a *line of reasoning*; that is, you should recognize the separate, sometimes implicit steps in the thinking process and consider whether the movement from each one to the next is logically sound. In tracing this line, look for transition words and phrases that suggest that the author is attempting to make a logical connection (e.g., *however, thus, therefore, evidently, hence, in conclusion*).

An important part of performing well on the Argument task is remembering what you are not being asked to do. You are not being asked to discuss whether the statements in the argument are true or accurate; instead, you are being asked whether conclusions and inferences are validly drawn from the statements. You are not being asked to agree or disagree with the position stated; instead, you are being asked to comment on the thinking that underlies the position stated. You are not being asked to express your own views on the subject being discussed (as you were in the Issue task); instead, you are being asked to evaluate the logical soundness of an argument of another writer and, in doing so, to demonstrate the critical thinking, perceptive reading, and analytical writing skills that university faculty consider important for success in graduate school.

“Analyze an Argument” is primarily a critical thinking task requiring a written response. Consequently, the analytical skills displayed in your critique carry great weight in determining your score.

### Understanding the Context for Writing: Purpose and Audience

The purpose of the task is to see how well equipped you are to insightfully analyze an argument written by someone else and to effectively communicate your

critique in writing to an academic audience. Your audience consists of college and university faculty who are trained as GRE readers to apply the scoring criteria identified in the scoring guide for the “Analyze an Argument” task (see page 52).

To get a clearer idea of how GRE readers apply the Argument scoring criteria to actual essays, you should review scored sample Argument essay responses and readers’ commentaries. The sample responses, particularly at the 5 and 6 score levels, will show you a variety of successful strategies for organizing and developing an insightful critique. You will also see many examples of particularly effective uses of language. The readers’ commentaries discuss specific aspects of analytical writing, such as cogency of ideas, development and support, organization, syntactic variety, and facility with language. These commentaries will point out aspects that are particularly effective and insightful as well as any that detract from the overall effectiveness of the responses.

### Preparing for the Argument Task

Because the Argument task is meant to assess analytical writing and informal reasoning skills that you have developed throughout your education, it has been designed so as not to require any specific course of study or to advantage students with a particular type of training. Many college textbooks on rhetoric and composition have sections on informal logic and critical thinking that might prove helpful, but even these might be more detailed and technical than the task requires. You will not be expected to know methods of analysis or technical terms. For instance, in one topic an elementary school principal might conclude that the new playground equipment has improved student attendance because absentee rates have declined since it was installed. You will not need to see that the principal has committed the *post hoc, ergo propter hoc* fallacy; you will simply need to see that there are other possible explanations for the improved attendance, to offer some common-sense examples, and perhaps to suggest what would be necessary to verify the conclusion. For instance, absentee rates might have decreased because the climate was mild. This would have to be ruled out in order for the principal’s conclusion to be valid.

Although you do not need to know special analytical techniques and terminology, you should be familiar with the directions for the Argument task in

the Practice Tests and with certain key concepts, including the following:

- **alternative explanation**—a possible competing version of what might have caused the events in question; an alternative explanation undercuts or qualifies the original explanation because it too can account for the observed facts
- **analysis**—the process of breaking something (e.g., an argument) down into its component parts in order to understand how they work together to make up the whole; also a presentation, usually in writing, of the results of this process
- **argument**—a claim or a set of claims with reasons and evidence offered as support; a line of reasoning meant to demonstrate the truth or falsehood of something
- **assumption**—a belief, often unstated or unexamined, that someone must hold in order to maintain a particular position; something that is taken for granted but that must be true in order for the *conclusion* to be true
- **conclusion**—the end point reached by a line of reasoning, valid if the reasoning is sound; the resulting assertion
- **counterexample**—an example, real or hypothetical, that refutes or disproves a statement in the *argument*

An excellent way to prepare for the “Analyze an Argument” topic is to practice writing on some of the published Argument topics. There is no one way to practice that is best for everyone. Some prefer to start practicing without adhering to the 30-minute time limit.

If you follow this approach, take all the time you need to analyze the argument. No matter which approach you take, you should

- carefully read the argument—you might want to read it over more than once
- identify as many of its claims, conclusions, and underlying assumptions as possible
- think of as many alternative explanations and counterexamples as you can
- think of what additional evidence might weaken or lend support to the claims
- ask yourself what changes in the argument would make the reasoning more sound

Jot down each of these thoughts as a brief note. When you’ve gone as far as you can with your analysis, look over the notes and put them in a good order

for discussion (perhaps by numbering them). Then write a critique by fully developing each of your points in turn. Even if you choose not to write a full essay response, you should find it very helpful to practice analyzing a few of the arguments and sketching out your responses. When you become quicker and more confident, you should practice writing some Argument responses within the 30-minute time limit so that you will have a good sense of how to pace yourself in the actual test. For example, you will not want to discuss one point so exhaustively or to provide so many equivalent examples that you run out of time to make your other main points.

Next, compare your response(s) to the scoring guide. Focus on seeing how your paper meets or misses the performance standards and what you therefore need to do in order to improve.

### **How to Interpret Numbers, Percentages, and Statistics in Argument Topics**

Some arguments contain numbers, percentages, or statistics that are offered as evidence in support of the argument's conclusion. For example, an argument might claim that a certain community event is less popular this year than it was last year because only 100 people attended this year in comparison with 150 last year, a 33 percent decline in attendance. It is important to remember that you are not being asked to do a mathematical task with the numbers, percentages, or statistics. Instead you should evaluate these as evidence that is intended to support the conclusion. In the example above, the conclusion is that a community event has become less popular. You should ask yourself: does the difference between 100 people and 150 people support that conclusion? Note that, in this case, there are other possible explanations; for example, the weather might have been much worse this year, this year's event might have been held at an inconvenient time, the cost of the event might have gone up this year, or there might have been another popular event this year at the same time. Each of these could explain the difference in attendance, and thus would weaken the conclusion that the event was "less popular." Similarly, percentages might support or weaken a conclusion depending on what actual numbers the percentages represent. Consider the claim that the drama club at a school deserves more funding because its membership has increased by 100 percent. This 100 percent

increase could be significant if there had been 100 members and now there are 200 members, whereas the increase would be much less significant if there had been 5 members and now there are 10. Remember that any numbers, percentages, or statistics in Argument topics are used only as evidence in support of a conclusion, and you should always consider whether they actually support the conclusion.

### **The Form of Your Response**

You are free to organize and develop your critique in any way that you think will effectively communicate your analysis of the argument. Your response may, but need not, incorporate particular writing strategies learned in English composition or writing-intensive college courses. GRE readers will not be looking for a particular developmental strategy or mode of writing. In fact, when faculty are trained to be GRE readers, they review hundreds of Argument responses that, although highly diverse in content and form, display similar levels of critical thinking and analytical writing. Readers will see, for example, some essays at the 6 score level that begin by briefly summarizing the argument and then explicitly stating and developing the main points of the critique. The readers know that a writer can earn a high score by analyzing and developing several points in a critique or by identifying a central flaw in the argument and developing that critique extensively. You might want to look at the sample Argument responses, particularly at the 5 and 6 score levels, to see how other writers have successfully developed and organized their critiques.

You should make choices about format and organization that you think support and enhance the overall effectiveness of your critique. This means using as many or as few paragraphs as you consider appropriate for your critique—for example, creating a new paragraph when your discussion shifts to a new point of analysis. You might want to organize your critique around the organization of the argument itself, discussing the argument line by line. Or you might want to first point out a central questionable assumption and then move on to discuss related flaws in the argument's line of reasoning. Similarly, you might want to use examples if they help illustrate an important point in your critique or move your discussion forward (remember, however, that in terms of your ability to perform the Argument task effectively, it is your critical thinking and analytical

writing, not your ability to come up with examples, that is being assessed). What matters is not the form the response takes, but how insightfully you analyze the argument and how articulately you communicate your analysis to academic readers within the context of the task.

### Directions\*

Discuss how well reasoned you find this argument.

### Sample Topic

“Hospital statistics regarding people who go to the emergency room after roller skating accidents indicate the need for more protective equipment. Within this group of people, 75 percent of those who had accidents in streets or parking lots were not wearing any protective clothing (helmets, knee pads, etc.) or any light-reflecting material (clip-on lights, glow-in-the-dark wrist pads, etc.). Clearly, these statistics indicate that by investing in high-quality protective gear and reflective equipment, roller skaters will greatly reduce their risk of being severely injured in an accident.”

### Strategies for this Topic

This argument cites a particular hospital statistic to support the general conclusion that “investing in high-quality protective gear and reflective equipment” will reduce the risk of being severely injured in a roller skating accident.

In developing your analysis, you should ask yourself whether the hospital statistic actually supports the conclusion. You might want to ask yourself such questions as:

- What percentage of all roller skaters goes to the emergency room after roller skating accidents?
- Are the people who go to the emergency room after roller skating accidents representative of roller skaters in general?
- Are there people who are injured in roller skating accidents who do not go to the emergency room?
- Were the roller skaters who went to the emergency room severely injured?
- Were the 25 percent of roller skaters who were wearing protective gear injured just as severely as the 75 percent who were not wearing the gear?
- Are streets and parking lots inherently more dangerous for roller skating than other places?

- Would mid-quality gear and equipment be just as effective as high-quality gear and equipment in reducing the risk of severe injury while roller skating?
- Are there factors other than gear and equipment—e.g., weather conditions, visibility, skill of the skaters—that might be more closely correlated with the risk of roller skating injuries?

Considering possible answers to questions such as these will help you identify assumptions, alternative explanations, and weaknesses that you can develop in your critique of the argument.

### Essay Response\*\* – Score 6

The notion that protective gear reduces the injuries suffered in accidents seems at first glance to be an obvious conclusion. After all, it is the intent of these products to either prevent accidents from occurring in the first place or to reduce the injuries suffered by the wearer should an accident occur. However, the conclusion that investing in high quality protective gear greatly reduces the risk of being severely injured in an accident may mask other (and potentially more significant) causes of injuries and may inspire people to over invest financially and psychologically in protective gear.

First of all, as mentioned in the argument, there are two distinct kinds of gear—preventative gear (such as light reflecting material) and protective gear (such as helmets). Preventative gear is intended to warn others, presumably for the most part motorists, of the presence of the roller skater. It works only if the “other” is a responsible and caring individual who will afford the skater the necessary space and attention. Protective gear is intended to reduce the effect of any accident, whether it is caused by an other, the skater or some force of nature. Protective gear does little, if anything, to prevent accidents but is presumed to reduce the injuries that occur in an accident. The statistics on injuries suffered by skaters would be more interesting if the skaters were grouped into those wearing no gear at all, those wearing protective gear only, those wearing preventative gear only and those wearing both. These statistics could provide skaters with a clearer understanding of which kinds of gear are more beneficial.

The argument above is weakened by the fact that it does not take into account the inherent differences between skaters who wear gear and those who do not.

\* The directions are presented as they appear on the actual test.

\*\* All responses in this publication are reproduced exactly as written, including errors, misspellings, etc., if any.

If it is at least likely that those who wear gear may be generally more responsible and/or safety conscious individuals. The skaters who wear gear may be less likely to cause accidents through careless or dangerous behavior. It may, in fact, be their natural caution and responsibility that keeps them out of the emergency room rather than the gear itself. Also, the statistic above is based entirely on those who are skating in streets and parking lots which are relatively dangerous places to skate in the first place. People who are generally more safety conscious (and therefore more likely to wear gear) may choose to skate in safer areas such as parks or back yards.

The statistic also does not differentiate between severity of injuries. The conclusion that safety gear prevents severe injuries suggests that it is presumed that people come to the emergency room only with severe injuries. This is certainly not the case. Also, given that skating is a recreational activity that may be primarily engaged in during evenings and weekends (when doctors' offices are closed), skater with less severe injuries may be especially likely to come to the emergency room for treatment.

Finally, there is absolutely no evidence provided that high quality (and presumably more expensive) gear is any more beneficial than other kinds of gear. For example, a simple white t-shirt may provide the same preventative benefit as a higher quality, more expensive, shirt designed only for skating. Before skaters are encouraged to invest heavily in gear, a more complete understanding of the benefit provided by individual pieces of gear would be helpful.

The argument for safety gear based on emergency room statistics could provide important information and potentially save lives. Before conclusions about the amount and kinds of investments that should be made in gear are reached, however, a more complete understanding of the benefits are needed. After all, a false confidence in ineffective gear could be just as dangerous as no gear at all.

#### **Reader Commentary for Essay Response – Score 6**

This outstanding response demonstrates the writer's insightful analytical skills. The introduction, which notes that adopting the topic's fallacious reasoning could “. . . inspire people to over invest financially and psychologically in protective gear,” is followed by a comprehensive examination of each of the

argument's root flaws. Specifically, the writer exposes several points that undermine the argument:

- that preventive and protective gear are not the same
- that skaters who wear gear may be less prone to accidents because they are, by nature, more responsible and cautious
- that the statistics do not differentiate by the severity of the injuries
- that gear may not need to be high-quality to be beneficial

The discussion is smoothly and logically organized, and each point is thoroughly and cogently developed. In addition, the writing is succinct, economical, and generally error-free. Sentences are varied and complex, and diction is expressive and precise.

In sum, this response exemplifies the very top of the 6 range described in the scoring guide. If the writer had been less eloquent or provided fewer reasons to refute the argument, the paper could still have received a 6.

#### **Essay Response – Score 5**

The argument presented is limited but useful. It indicates a possible relationship between a high percentage of accidents and a lack of protective equipment. The statistics cited compel a further investigation of the usefulness of protective gear in preventing or mitigating roller-skating related injuries. However, the conclusion that protective gear and reflective equipment would “greatly reduce risk of being severely injured” is premature. Data is lacking with reference to the total population of skaters and the relative levels of experience, skill and physical coordination of that population. It is entirely possible that further research would indicate that most serious injury is averted by the skater's ability to react quickly and skillfully in emergency situations.

Another area of investigation necessary before conclusions can be reached is identification of the types of injuries that occur and the various causes of those injuries. The article fails to identify the most prevalent types of roller-skating related injuries. It also fails to correlate the absence of protective gear and reflective equipment to those injuries. For example, if the majority of injuries are skin abrasions and closed-head injuries, then a case can be made for the usefulness of protective clothing mentioned.



Likewise, if injuries are caused by collision with vehicles (e.g. bicycles, cars) or pedestrians, then light-reflective equipment might mitigate the occurrences. However, if the primary types of injuries are soft-tissue injuries such as torn ligaments and muscles, back injuries and the like, then a greater case could be made for training and experience as preventative measures.

#### **Reader Commentary for Essay Response – Score 5**

This strong response gets right to the work of critiquing the argument, observing that it “indicates a possible relationship” but that its conclusion “is premature.” It raises three central questions that, if answered, might undermine the soundness of the argument:

- What are the characteristics of the total population of skaters?
- What is the usefulness of protective or reflective gear in preventing or mitigating roller skating-related injuries?
- What are the types of injuries sustained and their causes?

The writer develops each of these questions by considering possible answers that would either strengthen or weaken the argument. The paper does not analyze the argument as insightfully or develop the critique as fully as required for a 6 paper, but the clear organization, strong control of language, and substantial degree of development warrant more than a score of 4.

#### **Essay Response – Score 4**

Although the argument stated above discusses the importance of safety equipment as significant part of avoiding injury, the statistics quoted are vague and inconclusive. Simply because 75 percent of the people involved in roller-skating accidents are not wearing the stated equipment does not automatically implicate the lack of equipment as the cause of injury. The term “accidents” may imply a great variety of injuries. The types of injuries one could incur by not wearing the types of equipment stated above are minor head injuries; skin abrasions or possibly bone fracture of a select few areas such as knees, elbows, hands, etc. (which are in fact most vulnerable to this sport); and/or injuries due to practising the sport during low light times of the day. During any physically demanding activity or sport people are subjected to a wide variety of injuries which cannot be avoided with protective clothing or light-

reflective materials. These injuries include inner trauma (e.g., heart-attack); exhaustion; strained muscles, ligaments, or tendons; etc. Perhaps the numbers and percentages of people injured during roller-skating, even without protective equipment, would decrease greatly if people participating in the sport had proper training, good physical health, warm-up properly before beginning (stretching), as well as take other measures to prevent possible injury, such as common-sense, by refraining from performing the activity after proper lighting has ceased and knowing your personal limitations as an individual and athlete. The statistics used in the above reasoning are lacking in proper direction considering their assertions and therefore must be further examined and modified so that proper conclusions can be reached.

#### **Reader Commentary for Essay Response – Score 4**

This adequate response targets the argument’s vague and inconclusive “statistics.” The essay identifies and critiques the illogical reasoning that results from the misguided use of the argument’s statistics:

- that non-use of equipment may be “automatically” assumed to be the cause of injury
- that “accidents” may refer to minor injuries
- that injuries may result from other causes — skating in the dark, failure to train or warm-up properly, failure to recognize one’s physical limitations

The writer competently grasps the weaknesses of the argument. The ideas are clear and connected, but the response lacks transitional phrases. Development, too, is only adequate.

Control of language is better than adequate. The writer achieves both control and clarity and ably conforms to the conventions of written English. Overall, though, this 4 response lacks the more thorough development that would warrant a score of 5.

#### **Essay Response – Score 3**

The argument is well presented and supported, but not completely well reasoned. It is clear and concisely written. The content is logically and smoothly presented. Statistics cited are used to develop support for the recommendation, that roller skaters who invest in protective gear and reflective equipment can reduce their risk of severe, accidental injuries. Examples of the types of protective equipment are described for the reader. Unfortunately, the author of the argument fails to note that merely by purchasing

gear and reflective equipment that the skater will be protected. This is, of course, fallacious if the skater fails to use the equipment, or uses it incorrectly or inappropriately. It is also an unnecessary assumption that a skater need purchase high-quality gear for the same degree of effectiveness to be achieved. The argument could be improved by taking these issues into consideration, and making recommendations for education and safety awareness to skaters.

### Reader Commentary for Essay Response – Score 3

The first half of this generally well-written but limited response merely describes the argument. The second half of the paper identifies two assumptions of the argument:

- that people who purchase protective gear will use the gear
- that high-quality gear is more effective than other gear

These points are sufficient to constitute some analysis and thus warrant a score of 3. However, neither of these analytic points is developed sufficiently to merit a score of 4.

### Essay Response – Score 2

To reduce the accidents from roller skating we should consider about it causes and effects concurrently to find the best solution. Basically the roller-skating players are children, they had less experiences to protect themselves from any kind of dangerous. Therefore, it should be a responsible of adult to take care them. Adult should recommend their child to wear any protective clothing, set the rules and look after them while they are playing.

In the past roller-skating is limited in the skate yard but when it became popular people normally play it on the street way) Therefore the number of accidents from roller-skating is increased. The skate manufacturer should have a responsibility in producing a protective clothing. They should promote and sell them together with skates. The government or state should set the regulation of playing skate on the street way like they did with the bicycle.

To prevent this kind of accident is the best solution but it needs a cooperation among us to have a conscious mind to beware and realize its dangerous.

### Reader Commentary for Essay Response – Score 2

This seriously flawed response, rather than critiquing the argument, suggests ways for adults and skate

manufacturers to ensure that children wear protective clothing. In essence, the writer is uncritically accepting the argument.

The response exhibits serious and frequent problems in sentence structure and language use. Errors—word choice, verb tenses, subject-verb agreement, punctuation—are numerous and sometimes interfere with meaning, e.g., “. . . it needs a cooperation among us to have a conscious mind to beware and realize its dangerous.”

This essay earns a 2 because it demonstrates both serious linguistic weaknesses and failure to construct a critique based on logical analysis.

### Essay Response – Score 1

the protective equipment do help to reduce the risk of being severely injured in an accident since there are 75% Of those who had accidents in streets or parking lots were not wearing any protectivel clothing. such as hemlets, kenn pads, etc. or any light-reflecting materials such as clip-on lights, glow-in-the-dark wrist pads ets. if they do have protective equipment that only a quarter accident may happen, also that can greatly reduce their risk ofbeing severely injured in an accident, that can save some lives and a lot of energy and money for the treatment. the protective equipment do help to reduce the risk of being severely injured in an accident since there are 75% Of those who had accidents in streets or parking lots were not wearing any protectivel clothing. such as hemlets, kenn pads, etc. or any light-reflecting materials such as clip-on lights, glow-in-the-dark wrist pads ets. if they do have protective equipment that only a quarter accident may happen, also that can greatly reduce their risk ofbeing severely injured in an accident, that can save some lives and a lot of energy and money for the treatment. the protective equipment do help to reduce the risk of being severely injured in an accident since there are 75% Of those who had accidents in streets or parking lots were not wearing any protectivel clothing. such as hemlets, kenn pads, etc. or any light-reflecting materials such as clip-on lights, glow-in-the-dark wrist pads ets. if they do have protective equipment that only a quarter accident may happen, also that can greatly reduce their risk ofbeing severely injured in an accident, that can save some lives and a lot of energy and money for the treatment.

## Reader Commentary for Essay Response – Score 1

This fundamentally deficient response uncritically accepts the reasoning of the topic: “the protective equipment do help to reduce the risk of being severely injured in an accident.” There is no evidence, though, that the writer is able to understand or analyze the argument; what follows, except for a few additional words, merely copies the topic. This two-sentence response is repeated—verbatim—two more times.

Language and usage are equally problematic. The few words that have been added, in combination with the words of the topic, result in incoherence. In sum, this essay fits all of the scoring guide descriptors for a 1.

## Taking the Practice GRE General Test

After you have become familiar with the three sections of the General Test, it is time to take the practice test in this book to see how well you do. Not only will this help you become familiar with the directions and types of questions, it will help you determine how to pace yourself during an actual test. The practice General Test begins on page 29. The total time that should be allotted for this practice test is  $3\frac{1}{4}$  hours. The time that should be allotted for each section appears at the beginning of the section. The answer sheets are provided on pages 63–72.

## Evaluating Your Performance

After you have taken the practice General Test in this book, it is time to evaluate your performance.

### Verbal and Quantitative Sections

Appendix B on pages 54-55 contains information to help you evaluate your performance on the verbal and quantitative sections. A table of the correct answers to the questions in the verbal and quantitative sections is provided on page 54. Compare your answer to each question to the correct answer given in the list, crossing out questions you answered incorrectly or omitted. You can also evaluate your performance by looking at how you performed on each test question compared to others who answered the questions at an actual administration. In the table

on page 54, there is a number to the right of each correct answer, P+. The P+ is the percent of examinees who answered the question correctly and is based on the examinees who took that edition of the test. This information enables you to see how other examinees performed on each question. It can also help identify content areas in which you need more practice and review.

Next, add the number of correct answers in Sections II and IV to obtain your raw verbal score. Add the number of correct answers in Sections III and V to obtain your raw quantitative score. Once you have obtained your raw scores, you can look up your scaled scores on both sections. The score conversion table on page 55 provides the scaled scores that correspond to the raw scores on each section.

The score conversion table also allows you to compare your scaled scores with those of others who have taken the General Test. The table provides for each scaled score, the percent of examinees who earned lower scores, and is based on those examinees who took the verbal and quantitative sections on the General Test between October 1, 1998 and September 30, 2001. For example, the column next to the verbal scaled score 460 indicates 48 percent. This means that 48 percent of the examinees tested between October 1998 and September 2001 earned verbal scores below 460. For each score you earned on this practice test, note the percent of GRE examinees who earned lower scores. This is a reasonable indication of your rank among GRE General Test examinees if you have taken the practice test under standard timing conditions.

It may be helpful to compare your score to scores of examinees whose intended graduate school major field is similar to your own. The mean scores table on page 55 shows you the average scores of people in various categories of intended graduate major fields who took the General Test between October 1998 and September 2001. You can evaluate your scores by finding the major field category most closely related to your career goals and see how your performance compares with others who are striving for similar goals.

### Analytical Writing Section

One way to evaluate your performance on the Issue and Argument topics you answered on the practice test is to compare your essay responses to the scored

sample essay responses for these topics and review the reader commentary for these sample essay responses. Scored sample essay responses at selected score levels and reader commentary are presented in Appendix C on pages 56-62 for the two Issue topics and one Argument topic presented in the analytical writing section of the test.

The final scores on each of the two essays (Issue and Argument) are averaged and rounded up to the nearest half-point interval. A single score is reported for the analytical writing section. You should review the score level descriptions on page 53 to better understand the analytical writing abilities characteristic of particular score levels.

### **Additional Preparation**

Once you have evaluated your performance on the practice General Test in this book, you can determine what type of additional preparation you might want to do for the test.

Services and products available from Educational Testing Service and the Graduate Records Examinations Board include:

### **Enhanced Diagnostic Service**

<http://grediagnostic.ets.org>

If you are preparing to take the General Test and you want feedback on your verbal and quantitative skills, you can answer a series of questions and receive immediate feedback on your performance on each question, an assessment of your strengths and weaknesses in the verbal and quantitative skill areas, and much more. To learn more about the GRE Diagnostic Service, visit <http://grediagnostic.ets.org>.

### **GRE: Practicing to Take the General Test—10<sup>th</sup> Edition**

<http://www.ets.org/store/html>

This test preparation book contains verbal and quantitative sections from seven actual GRE General Tests (different from those in POWERPREP), including one test complete with explanations, test-taking strategies, and score conversion tables. It also includes a math review for the quantitative section. The analytical writing section contains two tests, two sample questions, test-taking strategies, scoring criteria, sample essay responses, and reader commentary.

Order online or call 1-800-537-3160 or 1-609-771-7243. The book is also available in many bookstores.

### **GRE ScoreItNow!<sup>TM</sup> Online Writing Practice**

[www.scoreitnow.org](http://www.scoreitnow.org)

This online service lets you test your analytical writing skills using authentic GRE analytical writing topics. It provides you with immediate scores on your essay responses, general suggestions for improving your writing skills, and sample essay responses on the topics you select. The essays are scored by e-rater<sup>®</sup>, ETS's automated scoring system. Two options are available:

- **Practice Option.** Purchase two topics and specify which type you want, "Present Your Perspective on an Issue" or "Analyze an Argument." Write your responses online or offline and submit for scoring. You will receive a score and feedback for each response submitted.
- **Test Experience Option.** Purchase one GRE General Test analytical writing section. You will receive one "Argument" task and can select one of two "Issue" tasks presented. Write your responses online using the same word processing features as the GRE General Test and within the same time allowed (75 minutes). You will receive a score and feedback for each response as well as a total score.

### **GRE Web Site**

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

Visit the GRE Web site regularly for the most up-to-date information about GRE tests, products, and services. The site contains information about registration, test centers, test preparation, and score reports. You can also find a complete listing of test preparation materials that can be downloaded for free.



SECTION 1

THE GRADUATE RECORD  
EXAMINATIONS®

# Analytical Writing 1

PRESENT YOUR PERSPECTIVE ON AN ISSUE

**45 minutes**

You will have a choice between two Issue topics. Each topic will appear as a brief quotation that states or implies an issue of general interest. Read each topic carefully; then decide on which topic you could write a more effective and well-reasoned response.

You will have 45 minutes to plan and compose a response that presents your perspective on the topic you select. A response on any other topic will receive a zero. You are free to accept, reject, or qualify the claim made in the topic you selected, as long as the ideas you present are clearly relevant to the topic. Support your views with reasons and examples drawn from such areas as your reading, experience, observations, or academic studies.

GRE readers, who are college and university faculty, will read your response and evaluate its overall quality, based on how well you do the following:

- consider the complexities and implications of the issue
- organize, develop, and express your ideas on the issue
- support your ideas with relevant reasons and examples
- control the elements of standard written English

You may want to take a few minutes to think about the issue and to plan a response before you begin writing. Because the space for writing your response is limited, **use the next page to plan your response**. Be sure to develop your ideas fully and organize them coherently, but leave time to reread what you have written and make any revisions that you think are necessary.

Present your perspective on one of the issues below, using relevant reasons and/or examples to support your views.

Topic

No:

C100. “Both the development of technological tools and the uses to which humanity has put them have created modern civilizations in which loneliness is ever increasing.”

C101. “Our declining environment may bring the people of the world together as no politician, philosopher, or war ever could. Environmental problems are global in scope and respect no nation’s boundaries. Therefore, people are faced with the choice of unity and cooperation on the one hand or disunity and a common tragedy on the other.”

Write the topic number of the issue you choose on the line at the top right corner of the answer booklet labeled “Analytical Writing 1: Issue.”

Plan your response on this page. This page will not be scored. **WRITE YOUR RESPONSE IN THE ANSWER BOOKLET LABELED “Analytical Writing 1: Issue.”**

---

**STOP**

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

Unauthorized copying or reuse of  
any part of this page is illegal.

THE GRADUATE RECORD  
EXAMINATIONS®

# Analytical Writing 2

ANALYZE AN ARGUMENT

**30 minutes**

You will have 30 minutes to plan and write a critique of an argument presented in the form of a short passage. A critique of any other argument will receive a score of zero.

Analyze the line of reasoning in the argument. Be sure to consider what, if any, questionable assumptions underlie the thinking and, if evidence is cited, how well it supports the conclusion.

You can also discuss what sort of evidence would strengthen or refute the argument, what changes in the argument would make it more logically sound, and what additional information might help you better evaluate its conclusion. *Note that you are NOT being asked to present your views on the subject.*

GRE readers, who are college and university faculty, will read your critique and evaluate its overall quality, based on how well you

- identify and analyze important features of the argument
- organize, develop, and express your critique of the argument
- support your critique with relevant reasons and examples
- control the elements of standard written English

Before you begin writing, you may want to take a few minutes to evaluate the argument and plan a response. Because the space for writing your response is limited, **use the next page to plan your response**. Be sure to develop your ideas fully and organize them coherently, but leave time to reread what you have written and make any revisions that you think are necessary.



Discuss how well reasoned you find this argument.

Topic

No:

- C103. Six months ago the region of Forestville increased the speed limit for vehicles traveling on the region's highways by ten miles per hour. Since that change took effect, the number of automobile accidents in that region has increased by 15 percent. But the speed limit in Elmsford, a region neighboring Forestville, remained unchanged, and automobile accidents declined slightly during the same six-month period. Therefore, if the citizens of Forestville want to reduce the number of automobile accidents on the region's highways, they should campaign to reduce Forestville's speed limit to what it was before the increase.

Write the topic number of the argument on the line at the top right corner of the answer booklet labeled "Analytical Writing 2: Argument."

Plan your response on this page. This page will not be scored. **WRITE YOUR RESPONSE ON THE ANSWER BOOKLET LABELED "Analytical Writing 2: Argument."**

---

**STOP**

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.

DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

Unauthorized copying or reuse of  
any part of this page is illegal.

## SECTION 2

Time—30 minutes

38 Questions

Directions: Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five lettered words or sets of words. Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.

- Nonviolent demonstrations often create such tensions that a community that has constantly refused to ----- its injustices is forced to correct them: the injustices can no longer be -----.  
(A) acknowledge. .ignored  
(B) decrease. .verified  
(C) tolerate. .accepted  
(D) address. .eliminated  
(E) explain. .discussed
- Since 1813 reaction to Jane Austen's novels has oscillated between ----- and condescension; but in general later writers have esteemed her works more highly than did most of her literary -----.  
(A) dismissal. .admirers  
(B) adoration. .contemporaries  
(C) disapproval. .readers  
(D) indifference. .followers  
(E) approbation. .precursors
- There are, as yet, no vegetation types or ecosystems whose study has been ----- to the extent that they no longer ----- ecologists.  
(A) perfected. .hinder (B) exhausted. .interest  
(C) prolonged. .require (D) prevented. .challenge  
(E) delayed. .benefit
- Under ethical guidelines recently adopted by the National Institutes of Health, human genes are to be manipulated only to correct diseases for which ----- treatments are unsatisfactory.  
(A) similar (B) most (C) dangerous  
(D) uncommon (E) alternative
- It was her view that the country's problems had been ----- by foreign technocrats, so that to invite them to come back would be counterproductive.  
(A) foreseen (B) attacked (C) ascertained  
(D) exacerbated (E) analyzed
- Winsor McCay, the cartoonist, could draw with incredible -----: his comic strip about Little Nemo was characterized by marvelous draftsmanship and sequencing.  
(A) sincerity (B) efficiency (C) virtuosity  
(D) rapidity (E) energy

- The actual ----- of Wilson's position was always ----- by his refusal to compromise after having initially agreed to negotiate a settlement.  
(A) outcome. .foreshadowed  
(B) logic. .enhanced  
(C) rigidity. .betrayed  
(D) uncertainty. .alleviated  
(E) cowardice. .highlighted

Directions: In each of the following questions, a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

- SEDATIVE : DROWSINESS ::  
(A) epidemic : contagiousness  
(B) vaccine : virus  
(C) laxative : drug  
(D) anesthetic : numbness  
(E) therapy : psychosis
- LAWYER : COURTROOM ::  
(A) participant : team  
(B) commuter : train  
(C) gladiator : arena  
(D) senator : caucus  
(E) patient : ward
- CURIOSITY : KNOW ::  
(A) temptation : conquer  
(B) starvation : eat  
(C) wanderlust : travel  
(D) humor : laugh  
(E) survival : live
- FRUGAL : MISERLY ::  
(A) confident : arrogant  
(B) courageous : pugnacious  
(C) famous : aggressive  
(D) rash : foolhardy  
(E) quiet : timid
- ANTIDOTE : POISON ::  
(A) cure : recovery  
(B) narcotic : sleep  
(C) stimulant : relapse  
(D) tonic : lethargy  
(E) resuscitation : breathing

GO ON TO THE NEXT PAGE.

13. STYGIAN : DARK ::  
 (A) abysmal : low  
 (B) cogent : contentious  
 (C) fortuitous : accidental  
 (D) reckless : threatening  
 (E) cataclysmic : doomed

- \*14. WORSHIP : SACRIFICE ::  
 (A) generation : pyre  
 (B) burial : mortuary  
 (C) weapon : centurion  
 (D) massacre : invasion  
 (E) prediction : augury

15. EVANESCENT : DISAPPEAR ::  
 (A) transparent : penetrate  
 (B) onerous : struggle  
 (C) feckless : succeed  
 (D) illusory : exist  
 (E) pliant : yield

16. UPBRAID : REPROACH ::  
 (A) dote : like  
 (B) lag : stray  
 (C) vex : please  
 (D) earn : desire  
 (E) recast : explain

Directions: Each passage in this group is followed by questions based on its content. After reading a passage, choose the best answer to each question. Answer all questions following a passage on the basis of what is stated or implied in that passage.

It has been known for many decades that the appearance of sunspots is roughly periodic, with an average cycle of eleven years. Moreover, the incidence of solar flares and the flux of solar cosmic rays, ultraviolet radiation, and x-radiation all vary directly with the sunspot cycle. But after more than a century of investigation, the relation of these and other phenomena, known collectively as the solar-activity cycle, to terrestrial weather and climate remains unclear. For example, the sunspot cycle and the allied magnetic-polarity cycle have been linked to periodicities discerned in records of such variables as rainfall, temperature, and winds. Invariably, however, the relation is weak, and commonly of dubious statistical significance.

Effects of solar variability over longer terms have also been sought. The absence of recorded sunspot activity in the notes kept by European observers in the late seventeenth and early eighteenth centuries has led some scholars to postulate a brief cessation of sunspot activity at that time (a period called the Maunder minimum). The Maunder minimum has been linked to a span of unusual cold in Europe extending from the sixteenth to the early nineteenth centuries. The reality of the Maunder minimum has yet to be established, however, especially since the records that Chinese naked-eye observers of solar activity made at that time appear to contradict it. Scientists

have also sought evidence of long-term solar periodicities by examining indirect climatological data, such as fossil records of the thickness of ancient tree rings. These studies, however, failed to link unequivocally terrestrial climate and the solar-activity cycle, or even to confirm the cycle's past existence.

If consistent and reliable geological or archaeological evidence tracing the solar-activity cycle in the distant past could be found, it might also resolve an important issue in solar physics: how to model solar activity. Currently, there are two models of solar activity. The first supposes that the Sun's internal motions (caused by rotation and convection) interact with its large-scale magnetic field to produce a dynamo, a device in which mechanical energy is converted into the energy of a magnetic field. In short, the Sun's large-scale magnetic field is taken to be self-sustaining, so that the solar-activity cycle it drives would be maintained with little overall change for perhaps billions of years. The alternative explanation supposes that the Sun's large-scale magnetic field is a remnant of the field the Sun acquired when it formed, and is not sustained against decay. In this model, the solar mechanism dependent on the Sun's magnetic field runs down more quickly. Thus, the characteristics of the solar-activity cycle could be expected to change over a long period of time. Modern solar observations span too short a time to reveal whether present cyclical solar activity is a long-lived feature of the Sun, or merely a transient phenomenon.

17. The author focuses primarily on
- (A) presenting two competing scientific theories concerning solar activity and evaluating geological evidence often cited to support them
  - (B) giving a brief overview of some recent scientific developments in solar physics and assessing their impact on future climatological research
  - (C) discussing the difficulties involved in linking terrestrial phenomena with solar activity and indicating how resolving that issue could have an impact on our understanding of solar physics
  - (D) pointing out the futility of a certain line of scientific inquiry into the terrestrial effects of solar activity and recommending its abandonment in favor of purely physics-oriented research
  - (E) outlining the specific reasons why a problem in solar physics has not yet been solved and faulting the overly theoretical approach of modern physicists

GO ON TO THE NEXT PAGE.

18. Which of the following statements about the two models of solar activity, as they are described in lines 37-55, is accurate?
- (A) In both models cyclical solar activity is regarded as a long-lived feature of the Sun, persisting with little change over billions of years.
  - (B) In both models the solar-activity cycle is hypothesized as being dependent on the large-scale solar magnetic field.
  - (C) In one model the Sun's magnetic field is thought to play a role in causing solar activity, whereas in the other model it is not.
  - (D) In one model solar activity is presumed to be unrelated to terrestrial phenomena, whereas in the other model solar activity is thought to have observable effects on the Earth.
  - (E) In one model cycles of solar activity with periodicities longer than a few decades are considered to be impossible, whereas in the other model such cycles are predicted.
19. According to the passage, late seventeenth- and early eighteenth-century Chinese records are important for which of the following reasons?
- (A) They suggest that the data on which the Maunder minimum was predicated were incorrect.
  - (B) They suggest that the Maunder minimum cannot be related to climate.
  - (C) They suggest that the Maunder minimum might be valid only for Europe.
  - (D) They establish the existence of a span of unusually cold weather worldwide at the time of the Maunder minimum.
  - (E) They establish that solar activity at the time of the Maunder minimum did not significantly vary from its present pattern.
20. The author implies which of the following about currently available geological and archaeological evidence concerning the solar-activity cycle?
- (A) It best supports the model of solar activity described in lines 37-45.
  - (B) It best supports the model of solar activity described in lines 45-52.
  - (C) It is insufficient to confirm either model of solar activity described in the third paragraph.
  - (D) It contradicts both models of solar activity as they are presented in the third paragraph.
  - (E) It disproves the theory that terrestrial weather and solar activity are linked in some way.
21. It can be inferred from the passage that the argument in favor of the model described in lines 37-45 would be strengthened if which of the following were found to be true?
- (A) Episodes of intense volcanic eruptions in the distant past occurred in cycles having very long periodicities.
  - (B) At the present time the global level of thunderstorm activity increases and decreases in cycles with periodicities of approximately 11 years.
  - (C) In the distant past cyclical climatic changes had periodicities of longer than 200 years.
  - (D) In the last century the length of the sunspot cycle has been known to vary by as much as 2 years from its average periodicity of 11 years.
  - (E) Hundreds of millions of years ago, solar-activity cycles displayed the same periodicities as do present-day solar-activity cycles.
22. It can be inferred from the passage that Chinese observations of the Sun during the late seventeenth and early eighteenth centuries
- (A) are ambiguous because most sunspots cannot be seen with the naked eye
  - (B) probably were made under the same weather conditions as those made in Europe
  - (C) are more reliable than European observations made during this period
  - (D) record some sunspot activity during this period
  - (E) have been employed by scientists seeking to argue that a change in solar activity occurred during this period
23. It can be inferred from the passage that studies attempting to use tree-ring thickness to locate possible links between solar periodicity and terrestrial climate are based on which of the following assumptions?
- (A) The solar-activity cycle existed in its present form during the time period in which the tree rings grew.
  - (B) The biological mechanisms causing tree growth are unaffected by short-term weather patterns.
  - (C) Average tree-ring thickness varies from species to species.
  - (D) Tree-ring thicknesses reflect changes in terrestrial climate.
  - (E) Both terrestrial climate and the solar-activity cycle randomly affect tree-ring thickness.

GO ON TO THE NEXT PAGE.

The common belief of some linguists that each language is a perfect vehicle for the thoughts of the nation speaking it is in some ways the exact counterpart of the conviction of the Manchester school of economics that supply and demand will regulate everything for the best. Just as economists were blind to the numerous cases in which the law of supply and demand left actual wants unsatisfied, so also many linguists are deaf to those instances in which the very nature of a language calls forth misunderstandings in everyday conversation, and in which, consequently, a word has to be modified or defined in order to present the idea intended by the speaker: "He took his stick—no, not John's, but his own." No language is perfect, and if we admit this truth, we must also admit that it is not unreasonable to investigate the relative merits of different languages or of different details in languages.

24. The primary purpose of the passage is to

- (A) analyze an interesting feature of the English language
- (B) refute a belief held by some linguists
- (C) show that economic theory is relevant to linguistic study
- (D) illustrate the confusion that can result from the improper use of language
- (E) suggest a way in which languages can be made more nearly perfect

25. The misunderstanding presented by the author in lines 13-14 is similar to which of the following?

- I. X uses the word "you" to refer to a group, but Y thinks that X is referring to one person only.
- II. X mistakenly uses the word "anomaly" to refer to a typical example, but Y knows that "anomaly" means "exception."
- III. X uses the word "bachelor" to mean "unmarried man," but Y mistakenly thinks that bachelor means "unmarried woman."

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

26. In presenting the argument, the author does all of the following EXCEPT

- (A) give an example
- (B) draw a conclusion
- (C) make a generalization
- (D) make a comparison
- (E) present a paradox

27. Which of the following contributes to the misunderstanding described by the author in lines 13-14?

- (A) It is unclear whom the speaker of the sentence is addressing.
- (B) It is unclear to whom the word "his" refers the first time it is used.
- (C) It is unclear to whom the word "his" refers the second time it is used.
- (D) The meaning of "took" is ambiguous.
- (E) It is unclear to whom "He" refers.

GO ON TO THE NEXT PAGE.

Directions: Each question below consists of a word printed in capital letters, followed by five lettered words or phrases. Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

Since some of the questions require you to distinguish fine shades of meaning, be sure to consider all the choices before deciding which one is best.

28. FALLACY: (A) personal philosophy  
(B) imaginative idea (C) unconfirmed theory  
(D) tentative opinion (E) valid argument
29. DIVULGE: (A) keep secret  
(B) evaluate by oneself (C) refine  
(D) restore (E) copy
30. BOYCOTT: (A) extort (B) underwrite  
(C) underbid (D) stipulate (E) patronize
31. ADULTERATION: (A) consternation  
(B) purification (C) normalization  
(D) approximation (E) rejuvenation
32. DEPOSITION: (A) process of congealing  
(B) process of distilling (C) process of eroding  
(D) process of evolving (E) process of condensing
33. ENERVATE: (A) recuperate (B) resurrect  
(C) renovate (D) gather (E) strengthen
34. LOQUACIOUS: (A) tranquil (B) skeptical  
(C) morose (D) taciturn (E) witty
35. REPINE: (A) intensify (B) excuse  
(C) express joy (D) feel sure (E) rush forward
36. VENERATION: (A) derision (B) blame  
(C) avoidance (D) ostracism (E) defiance
37. INVETERATE: (A) casual (B) public  
(C) satisfactory (D) trustworthy  
(E) sophisticated
38. UNDERMINE: (A) submerge (B) supersede  
(C) overhaul (D) undergird (E) intersperse

## **S T O P**

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 3

Time—30 minutes

30 Questions

**Numbers:** All numbers used are real numbers.

**Figures:** Position of points, angles, regions, etc. can be assumed to be in the order shown; and angle measures can be assumed to be positive.

Lines shown as straight can be assumed to be straight.

Figures can be assumed to lie in a plane unless otherwise indicated.

Figures that accompany questions are intended to provide information useful in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve these problems **not** by estimating sizes by sight or by measurement, but by using your knowledge of mathematics (see Example 2 below).

**Directions:** Each of the Questions 1-15 consists of two quantities, one in Column A and one in Column B. You are to compare the two quantities and choose

A if the quantity in Column A is greater;

B if the quantity in Column B is greater;

C if the two quantities are equal;

D if the relationship cannot be determined from the information given.

**Note:** Since there are only four choices, NEVER MARK (E).

**Common**

**Information:** In a question, there may be additional information, centered above the two columns, that concerns one or both of the quantities to be compared. A symbol that appears in both columns represents the same thing in Column A as it does in Column B.

Column A

Column B

1.  $3^4$   $4^3$

$$x = 2y + 3$$

$$y = -2$$

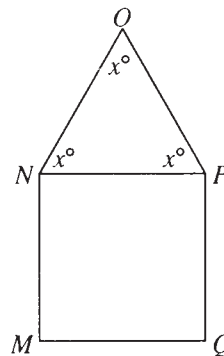
2.  $x$   $-1$

$d = 5.03894$  and  $\boxed{d}$  is the decimal expression for  $d$  rounded to the nearest thousandth.

3. The number of decimal places where  $d$  and  $\boxed{d}$  differ  $4$

$$x + 2y > 8$$

4.  $2x + 4y$   $20$



Square  $MNPQ$  has area 36.

5. The perimeter of pentagon  $MNOPQ$   $30$

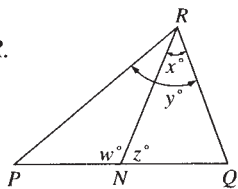
$p$  and  $q$  are different prime numbers.  $r$  is the least prime number greater than  $p$ , and  $s$  is the least prime number greater than  $q$ .

6.  $r - p$   $s - q$

Column A      Column B      Sample Answers

**Example 1:**  $2 \times 6$        $2 + 6$       ● (B) (C) (D) (E)

Examples 2-4 refer to  $\triangle PQR$ .



**Example 2:**  $PN$        $NQ$       (A) (B) (C) ● (E)

(since equal measures cannot be assumed, even though  $PN$  and  $NQ$  appear equal)

**Example 3:**  $x$        $y$       (A) ● (C) (D) (E)

(since  $N$  is between  $P$  and  $Q$ )

**Example 4:**  $w + z$        $180$       (A) (B) ● (D) (E)

(since  $PQ$  is a straight line)

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

Column A

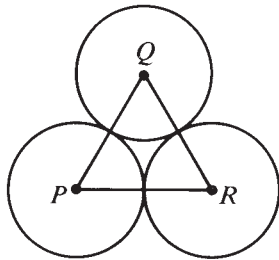
Column B

$$|-3| = -m$$

7.  $m$  3

$n$  is an even integer and a multiple of 3.

8. The remainder when  $n$  is divided by 12 6



Equilateral triangle  $PQR$  is formed by joining centers  $P$ ,  $Q$ , and  $R$  of the circles. Each pair of circles has exactly one point in common.

9. The perimeter of triangle  $PQR$  The circumference of the circle with center  $Q$
10. The volume of a cylindrical tank that has a radius of 2 meters and a height of 10 meters The volume of a cylindrical tank that has a radius of 1 meter and a height of 20 meters

$$ds \neq 0$$

11. The time required to travel  $d$  miles at  $s$  miles per hour The time required to travel  $\frac{d}{2}$  miles at  $2s$  miles per hour

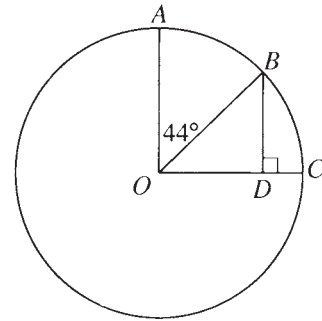
$\triangle RST$  is isosceles and  $\angle RST = 40^\circ$ .

12. The sum of the measures of the two angles of  $\triangle RST$  that have equal measure  $120^\circ$

13.  $\sqrt{x^4 + 6x^2 + 9}$   $x^2 + 3$

Column A

Column B



$O$  is the center of the circle and  $\angle AOC$  is a right angle.

14.  $OD$   $BD$

Before Maria changed jobs, her salary was 24 percent more than Julio's salary. After Maria changed jobs, her new salary was 24 percent less than her old salary.

15. Julio's salary Maria's new salary

**Directions:** Each of the Questions 16-30 has five answer choices. For each of these questions, select the best of the answer choices given.

16.  $(19 - 18 - 17 - 16) - (20 - 19 - 18 - 17) =$

- (A) -36  
 (B) -6  
 (C) -4  
 (D) 1  
 (E) 2

17. If  $3x - 2 = 7$ , then  $4x =$

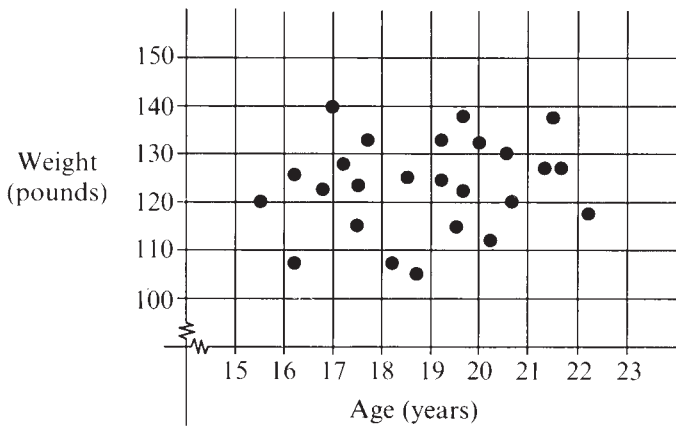
- (A) 3  
 (B) 5  
 (C)  $\frac{20}{3}$   
 (D) 9  
 (E) 12

18. Of the following, which is closest to  $\sqrt[3]{30}$  ?

- (A) 6  
 (B) 5  
 (C) 4  
 (D) 3  
 (E) 2

GO ON TO THE NEXT PAGE.





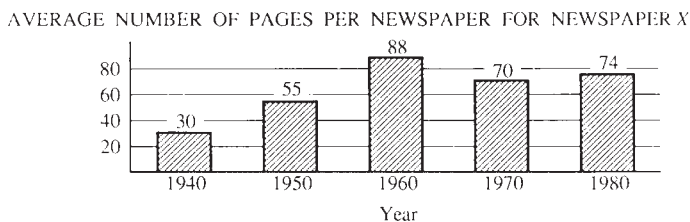
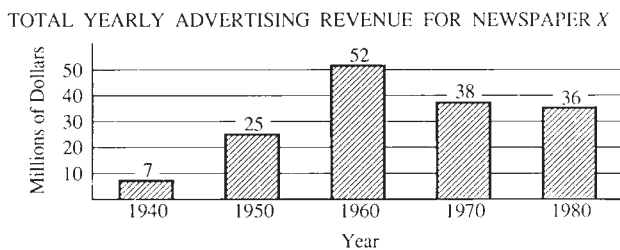
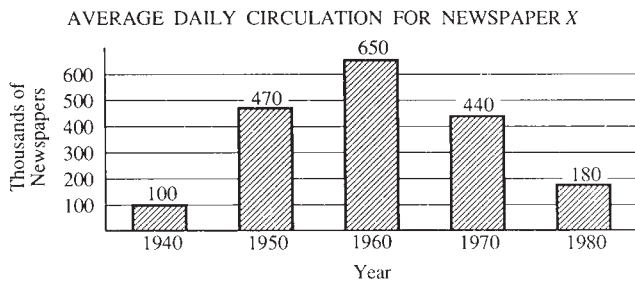
19. The dots on the graph above indicate age and weight for a sample of 25 students. What percent of these students are less than 19 years old and weigh more than 110 pounds?

- (A) 36%                      (B) 40%                      (C) 44%  
 (D) 48%                      (E) 52%

20. The greatest number of diagonals that can be drawn from one vertex of a regular 6-sided polygon is

- (A) 2                              (B) 3                              (C) 4  
 (D) 5                              (E) 6

Questions 21-25 refer to the following graphs.



21. In how many of the years shown was the average number of pages per newspaper at least twice as much as the average in 1940 ?

- (A) Four  
 (B) Three  
 (C) Two  
 (D) One  
 (E) None

22. In 1950, if the printing cost per newspaper was \$0.05, what would have been the total cost of printing the average daily circulation?

- (A) \$32,500  
 (B) \$26,000  
 (C) \$23,500  
 (D) \$22,000  
 (E) \$2,600

23. In 1980 the number of dollars of advertising revenue was how many times as great as the average daily circulation?

- (A) 500  
 (B) 200  
 (C) 100  
 (D) 50  
 (E) 20

24. The percent decrease in average daily circulation from 1960 to 1970 was approximately

- (A) 10%  
 (B) 12%  
 (C) 20%  
 (D) 26%  
 (E) 32%

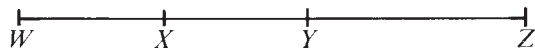
25. Which of the following statements can be inferred from the data?

- I. The greatest increase in total yearly advertising revenue over any 10-year period shown was \$27 million.
- II. In each of the 10-year periods shown in which yearly advertising revenue decreased, average daily circulation also decreased.
- III. From 1970 to 1980 the average number of pages per newspaper increased by 10.

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

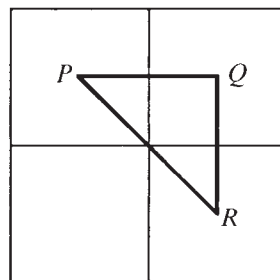
GO ON TO THE NEXT PAGE.

26. If  $0 < st < 1$ , then which of the following can be true?
- (A)  $s < -1$  and  $t > 0$   
 (B)  $s < -1$  and  $t < -1$   
 (C)  $s > -1$  and  $t < -1$   
 (D)  $s > 1$  and  $t < -1$   
 (E)  $s > 1$  and  $t > 1$



27. On segment  $WZ$  above, if  $WY = 21$ ,  $XZ = 26$ , and  $YZ$  is twice  $WX$ , what is the value of  $XY$ ?
- (A) 5  
 (B) 10  
 (C) 11  
 (D) 16  
 (E) It cannot be determined from the information given.
28. To reproduce an old photograph, a photographer charges  $x$  dollars to make a negative,  $\frac{3x}{5}$  dollars for each of the first 10 prints, and  $\frac{x}{5}$  dollars for each print in excess of 10 prints. If \$45 is the total charge to make a negative and 20 prints from an old photograph, what is the value of  $x$ ?
- (A) 3  
 (B) 3.5  
 (C) 4  
 (D) 4.5  
 (E) 5

29. Which of the following is equal to  $\frac{1}{4}$  of 0.01 percent?
- (A) 0.000025  
 (B) 0.00025  
 (C) 0.0025  
 (D) 0.025  
 (E) 0.25



30. In the figure above, each of the four squares has sides of length  $x$ . If  $\triangle PQR$  is formed by joining the centers of three of the squares, what is the perimeter of  $\triangle PQR$  in terms of  $x$ ?
- (A)  $2x\sqrt{2}$   
 (B)  $\frac{x\sqrt{2}}{2} + x$   
 (C)  $2x + \sqrt{2}$   
 (D)  $x\sqrt{2} + 2$   
 (E)  $2x + x\sqrt{2}$

**STOP**

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
 DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

## SECTION 4

Time—30 minutes

38 Questions

Directions: Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five lettered words or sets of words. Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.

- The senator's reputation, though ----- by false allegations of misconduct, emerged from the ordeal -----.  
(A) shaken. .unscathed  
(B) destroyed. .intact  
(C) damaged. .impaired  
(D) impugned. .unclear  
(E) tarnished. .sullied
- This poetry is not -----; it is more likely to appeal to an international audience than is poetry with strictly regional themes.  
(A) familiar (B) democratic (C) technical  
(D) complex (E) provincial
- Experienced employers recognize that business students who can ----- different points of view are ultimately more effective as managers than are the brilliant and original students who ----- dogmatically to their own formulations.  
(A) discredit. .revert (B) assimilate. .adhere  
(C) impose. .refer (D) disregard. .incline  
(E) advocate. .relate
- Poe's ----- reviews of contemporary fiction, which often find great merit in otherwise ----- literary gems, must make us respect his critical judgment in addition to his well-known literary talent.  
(A) thorough. .completed  
(B) petulant. .unpopular  
(C) insightful. .unappreciated  
(D) enthusiastic. .acclaimed  
(E) harsh. .undeserving
- The significance of the Magna Carta lies not in its ----- provisions, but in its broader impact: it made the king subject to the law.  
(A) specific (B) revolutionary (C) implicit  
(D) controversial (E) finite
- The theory of cosmic evolution states that the universe, having begun in a state of simplicity and -----, has ----- into great variety.  
(A) equilibrium. .modulated  
(B) homogeneity. .differentiated  
(C) contrast. .metamorphosed  
(D) proportion. .accelerated  
(E) intelligibility. .developed
- Not wishing to appear -----, the junior member of the research group refrained from ----- any criticism of the senior members' plan for dividing up responsibility for the entire project.  
(A) reluctant. .evaluating  
(B) inquisitive. .offering  
(C) presumptuous. .venturing  
(D) censorious. .undercutting  
(E) moralistic. .observing

Directions: In each of the following questions, a related pair of words or phrases is followed by five lettered pairs of words or phrases. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

- FRAGILE : BREAK ::  
(A) invisible : see  
(B) erratic : control  
(C) flammable : burn  
(D) noxious : escape  
(E) industrial : manufacture
- MUTTER : INDISTINCT ::  
(A) demand : obedient  
(B) plead : obligatory  
(C) flatter : commendable  
(D) drone : monotonous  
(E) confirm : proven
- FAULTFINDER : CRITICIZE ::  
(A) luminary : recognize  
(B) athlete : cheer  
(C) arbitrator : mediate  
(D) pharmacist : prescribe  
(E) dawdler : toil
- PEST : IRKSOME ::  
(A) salesclerk : courteous  
(B) expert : proficient  
(C) enigma : unexpected  
(D) leader : nondescript  
(E) accuser : indicted
- PROLOGUE : NOVEL ::  
(A) preamble : statute  
(B) sketch : drawing  
(C) movement : symphony  
(D) index : book  
(E) blueprint : building

GO ON TO THE NEXT PAGE.

13. EXPAND : VOLUME ::

- (A) ascend : flight
- (B) proliferate : number
- (C) bend : flexibility
- (D) cool : temperature
- (E) deflect : heading

14. CONTIGUOUS : ABUT ::

- (A) possible : occur
- (B) simultaneous : coincide
- (C) comprehensive : except
- (D) synthetic : create
- (E) constant : stabilize

15. SUITCASE : LUGGAGE ::

- (A) gift : package
- (B) necklace : garment
- (C) room : house
- (D) hat : millinery
- (E) faucet : sink

16. PROHIBITIVE : PURCHASE ::

- (A) preventive : heal
- (B) laudatory : praise
- (C) admonitory : fear
- (D) peremptory : dispute
- (E) imperative : comply

**Directions:** Each passage in this group is followed by questions based on its content. After reading a passage, choose the best answer to each question. Answer all questions following a passage on the basis of what is stated or implied in that passage.

\*  
Line (5) It is frequently assumed that the mechanization of work has a revolutionary effect on the lives of the people who operate the new machines and on the society into which the machines have been introduced. For example, (10) it has been suggested that the employment of women in industry took them out of the household, their traditional sphere, and fundamentally altered their position in society. In the nineteenth century, when women began to enter factories, Jules Simon, a French politician, warned that by doing so, women would give up their femininity. (15) Friedrich Engels, however, predicted that women would be liberated from the "social, legal, and economic subordination" of the family by technological developments that made possible the recruitment of "the whole female sex . . . into public industry." Observers thus differed concerning the social desirability of mechanization's effects, but they agreed that it would transform women's lives.

(20) Historians, particularly those investigating the history of women, now seriously question this assumption of transforming power. They conclude that such dramatic technological innovations as the spinning jenny, the sewing machine, the typewriter, and the vacuum cleaner have not resulted in equally dramatic social changes in

(25) women's economic position or in the prevailing evaluation of women's work. The employment of young women in textile mills during the Industrial Revolution was largely an extension of an older pattern of employment of young, single women as domestics. It was not (30) the change in office technology, but rather the separation of secretarial work, previously seen as an apprenticeship for beginning managers, from administrative work that in the 1880's created a new class of "dead-end" jobs, thenceforth considered "women's work." The (35) increase in the numbers of married women employed outside the home in the twentieth century had less to do with the mechanization of housework and an increase in leisure time for these women than it did with their own economic necessity and with high marriage rates that (40) shrank the available pool of single women workers, previously, in many cases, the only women employers would hire.

Women's work has changed considerably in the past (45) 200 years, moving from the household to the office or the factory, and later becoming mostly white-collar instead of blue-collar work. Fundamentally, however, the conditions under which women work have changed little since before the Industrial Revolution: the segregation of occupations by gender, lower pay for women (50) as a group, jobs that require relatively low levels of skill and offer women little opportunity for advancement all persist, while women's household labor remains demanding. Recent historical investigation has led to a major revision of the notion that technology is always (55) inherently revolutionary in its effects on society. Mechanization may even have slowed any change in the traditional position of women both in the labor market and in the home.

17. Which of the following statements best summarizes the main idea of the passage?

- (A) The effects of the mechanization of women's work have not borne out the frequently held assumption that new technology is inherently revolutionary.
- (B) Recent studies have shown that mechanization revolutionizes a society's traditional values and the customary roles of its members.
- (C) Mechanization has caused the nature of women's work to change since the Industrial Revolution.
- (D) The mechanization of work creates whole new classes of jobs that did not previously exist.
- (E) The mechanization of women's work, while extremely revolutionary in its effects, has not, on the whole, had the deleterious effects that some critics had feared.

18. The author mentions all of the following inventions as examples of dramatic technological innovations EXCEPT the

- (A) sewing machine (B) vacuum cleaner
- (C) typewriter (D) telephone
- (E) spinning jenny

GO ON TO THE NEXT PAGE.

19. It can be inferred from the passage that, before the Industrial Revolution, the majority of women's work was done in which of the following settings?  
 (A) Textile mills (B) Private households  
 (C) Offices (D) Factories (E) Small shops
20. It can be inferred from the passage that the author would consider which of the following to be an indication of a fundamental alteration in the conditions of women's work?  
 (A) Statistics showing that the majority of women now occupy white-collar positions  
 (B) Interviews with married men indicating that they are now doing some household tasks  
 (C) Surveys of the labor market documenting the recent creation of a new class of jobs in electronics in which women workers outnumber men four to one  
 (D) Census results showing that working women's wages and salaries are, on the average, as high as those of working men  
 (E) Enrollment figures from universities demonstrating that increasing numbers of young women are choosing to continue their education beyond the undergraduate level
21. The passage states that, before the twentieth century, which of the following was true of many employers?  
 (A) They did not employ women in factories.  
 (B) They tended to employ single rather than married women.  
 (C) They employed women in only those jobs that were related to women's traditional household work.  
 (D) They resisted technological innovations that would radically change women's roles in the family.  
 (E) They hired women only when qualified men were not available to fill the open positions.
22. It can be inferred from the passage that the author most probably believes which of the following to be true concerning those historians who study the history of women?  
 (A) Their work provides insights important to those examining social phenomena affecting the lives of both sexes.  
 (B) Their work can only be used cautiously by scholars in other disciplines.  
 (C) Because they concentrate only on the role of women in the workplace, they draw more reliable conclusions than do other historians.  
 (D) While highly interesting, their work has not had an impact on most historians' current assumptions concerning the revolutionary effect of technology in the workplace.  
 (E) They oppose the further mechanization of work, which, according to their findings, tends to perpetuate existing inequalities in society.
23. Which of the following best describes the function of the concluding sentence of the passage?  
 (A) It sums up the general points concerning the mechanization of work made in the passage as a whole.  
 (B) It draws a conclusion concerning the effects of the mechanization of work which goes beyond the evidence presented in the passage as a whole.  
 (C) It restates the point concerning technology made in the sentence immediately preceding it.  
 (D) It qualifies the author's agreement with scholars who argue for a major revision in the assessment of the impact of mechanization on society.  
 (E) It suggests a compromise between two seemingly contradictory views concerning the effects of mechanization on society.
- (This passage is excerpted from an article that was published in 1982.)
- Warm-blooded animals have elaborate physiological controls to maintain constant body temperature (in humans, 37° C). Why then during sickness should temperature rise, apparently increasing stress on the infected organism? It has long been known that the level of serum iron in animals falls during infection. Garibaldi first suggested a relationship between fever and iron. He found that microbial synthesis of siderophores — substances that bind iron — in bacteria of the genus *Salmonella* declined at environmental temperatures above 37° C and stopped at 40.3° C. Thus, fever would make it more difficult for an infecting bacterium to acquire iron and thus to multiply. Cold-blooded animals were used to test this hypothesis because their body temperature can be controlled in the laboratory. Kluger reported that of iguanas infected with the potentially lethal bacterium *A. hydrophilia*, more survived at temperatures of 42° C than at 37° C, even though healthy animals prefer the lower temperature. When animals at 42° C were injected with an iron solution, however, mortality rates increased significantly. Research to determine whether similar phenomena occur in warm-blooded animals is sorely needed.
24. The passage is primarily concerned with attempts to determine  
 (A) the role of siderophores in the synthesis of serum iron  
 (B) new treatments for infections that are caused by *A. hydrophilia*  
 (C) the function of fever in warm-blooded animals  
 (D) the mechanisms that ensure constant body temperature  
 (E) iron utilization in cold-blooded animals

GO ON TO THE NEXT PAGE.

25. According to the passage, Garibaldi determined which of the following?
- (A) That serum iron is produced through microbial synthesis
  - (B) That microbial synthesis of siderophores in warm-blooded animals is more efficient at higher temperatures
  - (C) That only iron bound to other substances can be used by bacteria
  - (D) That there is a relationship between the synthesis of siderophores in bacteria of the genus *Salmonella* and environmental temperature
  - (E) That bacteria of the genus *Salmonella* require iron as a nutrient
26. Which of the following can be inferred about warm-blooded animals solely on the basis of information in the passage?
- (A) The body temperatures of warm-blooded animals cannot be easily controlled in the laboratory.
  - (B) Warm-blooded animals require more iron in periods of stress than they do at other times.
  - (C) Warm-blooded animals are more comfortable at an environmental temperature of 37° C than they are at a temperature of 42° C.
  - (D) In warm-blooded animals, bacteria are responsible for the production of siderophores, which, in turn, make iron available to the animal.
  - (E) In warm-blooded animals, infections that lead to fever are usually traceable to bacteria.
27. If it were to be determined that “similar phenomena occur in warm-blooded animals” (lines 22-23), which of the following, assuming each is possible, is likely to be the most effective treatment for warm-blooded animals with bacterial infections?
- (A) Administering a medication that lowers the animals’ body temperature
  - (B) Injecting the animals with an iron solution
  - (C) Administering a medication that makes serum iron unavailable to bacteria
  - (D) Providing the animals with reduced-iron diets
  - (E) Keeping the animals in an environment with temperatures higher than 37° C

Directions: Each question below consists of a word printed in capital letters, followed by five lettered words or phrases. Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

Since some of the questions require you to distinguish fine shades of meaning, be sure to consider all the choices before deciding which one is best.

28. PERTAIN: (A) be apathetic (B) be illegitimate (C) be irrevocable (D) be incongruous (E) be irrelevant
29. FREQUENCY: (A) unity (B) rarity (C) gradualness (D) persistency (E) moderation
30. AMALGAMATE: (A) study (B) circulate (C) reduce (D) endure (E) separate
31. ARRHYTHMIC: (A) timely (B) subordinate (C) terminal (D) lacking precision (E) exhibiting regularity
32. BLITHE: (A) conceited (B) dim (C) sturdy (D) laconic (E) grave
33. POLEMICAL: (A) imitative (B) lavish (C) conciliatory (D) attractive (E) modest
34. PRECIPITATE: (A) deliberate (B) determined (C) dissident (D) desperate (E) divided
35. DEFERENCE: (A) aversion (B) resignation (C) suspicion (D) inattention (E) contempt
36. UNTOWARD: (A) direct (B) decisive (C) necessary (D) favorable and anticipated (E) confident and prepared
37. OPPROBRIOUS: (A) meretricious (B) innocuous (C) invulnerable (D) irreproachable (E) ambitious
38. VERITABLE: (A) impetuous (B) pernicious (C) inefficacious (D) disastrous (E) specious

## S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

SECTION 5  
Time—30 minutes  
30 Questions

**Numbers:** All numbers used are real numbers.

**Figures:** Position of points, angles, regions, etc. can be assumed to be in the order shown; and angle measures can be assumed to be positive.

Lines shown as straight can be assumed to be straight.

Figures can be assumed to lie in a plane unless otherwise indicated.

Figures that accompany questions are intended to provide information useful in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve these problems **NOT** by estimating sizes by sight or by measurement, but by using your knowledge of mathematics (see Example 2 below).

**Directions:** Each of the Questions 1-15 consists of two quantities, one in Column A and one in Column B. You are to compare the two quantities and choose

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

**Note:** Since there are only four choices, NEVER MARK (E).

**Common Information:** In a question, there may be additional information, centered above the two columns, that concerns one or both of the questions to be compared. A symbol that appears in both columns represents the same thing in Column A as it does in Column B.

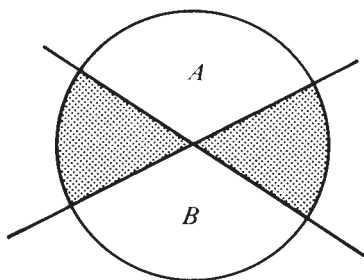
	Column A	Column B	Sample Answers
<b>Example 1:</b>	$2 \times 6$	$2 + 6$	● (B) (C) (D) (E)
Examples 2-4 refer to $\triangle PQR$ .			
<b>Example 2:</b>	$PN$	$NQ$	(A) (B) (C) ● (E) (since equal measures cannot be assumed, even though $PN$ and $NQ$ appear equal)
<b>Example 3:</b>	$x$	$y$	(A) ● (C) (D) (E) (since $N$ is between $P$ and $Q$ )
<b>Example 4:</b>	$w + z$	$180$	(A) (B) ● (D) (E) (since $PQ$ is a straight line)

	Column A	Column B
1.	The number of months in 7 years	The number of days in 12 weeks
2.	$1 - \frac{1}{27}$	$\frac{8}{9} + \frac{1}{81}$
<p style="text-align: center;"><math>\triangle ABC</math> is equilateral. Line <math>l</math> is parallel to side <math>BC</math> and line <math>m</math> is parallel to side <math>AC</math>.</p>		
3.	$x$	$60$
$r > s > 0$		
4.	$\frac{rs}{r}$	$\frac{rs}{s}$
The circumference of circle $C$ is $18\pi$ .		
5.	The diameter of circle $C$	$9$
6.	$9^7$	$10,000,000$
The volume of a cube is 64.		
7.	The area of the base of the cube	$32$
$t$ is a positive integer.		
$\frac{4}{7} = \frac{t}{s}$		
8.	$s$	$7$
9.	$(0.82)^2(0.82)^3$	$(0.82)^6$
For all real numbers $a$ , let $a^* = 1 - a$ .		
10.	$((-1)^*)^*$	$2^*$

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

Column A

Column B



The areas of the two shaded regions of the circle are equal.

- |   |   |
|---|---|
| 11. The area of unshaded region $A$ of the circle | The area of unshaded region $B$ of the circle |
|---|---|

---

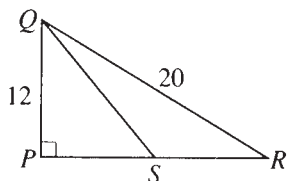

$$x \neq 0$$

- |                     |   |
|---------------------|---|
| 12. $\frac{x}{ x }$ | 1 |
|---------------------|---|

Team  $X$  scored  $p$  points more than team  $Y$ , and the two teams together scored a total of 10 points.

- |  |          |
|--|----------|
| 13. Twice the number of points team $Y$ scored | 10 - $p$ |
|--|----------|

- |                         |           |
|-------------------------|-----------|
| 14. $(x - 1)(x)(x + 1)$ | (x)(x)(x) |
|-------------------------|-----------|



The area of  $\triangle PQS$  is 45.

- |                                |                            |
|--------------------------------|----------------------------|
| 15. The length of segment $PS$ | The length of segment $SR$ |
|--------------------------------|----------------------------|

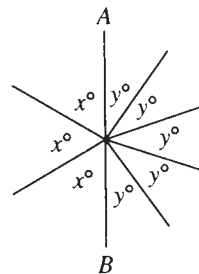
**Directions:** Each of the Questions 16-30 has five answer choices. For each of these questions, select the best of the answer choices given.

16. In a certain shop, notebooks that normally sell for 59 cents each are on sale at 2 for 99 cents. How much can be saved by purchasing 10 of these notebooks at the sale price?

- (A) \$0.85      (B) \$0.95      (C) \$1.10  
 (D) \$1.15      (E) \$2.00

17. Which of the following is a solution to  $x + x^2 = 1$ ?

- (A)  $-1$   
 (B)  $0$   
 (C)  $\frac{1}{2}$   
 (D)  $1$   
 (E) None of the above

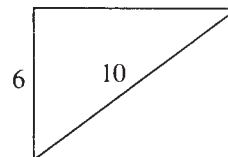


18. In the figure above,  $AB$  is a line segment. What is the value of  $\frac{x - y}{x + y}$ ?

- (A)  $\frac{5}{24}$     (B)  $\frac{1}{4}$     (C)  $\frac{7}{16}$     (D)  $\frac{11}{24}$     (E)  $\frac{7}{13}$

19. If the average (arithmetic mean) of 5 consecutive integers is 12, what is the sum of the least and greatest of the 5 integers?

- (A) 24    (B) 14    (C) 12    (D) 11    (E) 10



20. What is the perimeter of the rectangle shown above?

- (A) 14    (B) 24    (C) 28    (D) 38    (E) 48

GO ON TO THE NEXT PAGE.



Questions 21-25 refer to the following chart.

**PROFILE OF CONGRESS IN YEAR X**  
(total membership: 535)

House of Representatives	Senate	House of Representatives	Senate
<b>Party</b>		<b>Profession</b>	
292.....	Democratic ..... 62	215 .....	Lawyer .....63
143.....	Republican..... 38	81 .....	Business Executive or Banker .....15
435.....	Total ..... 100	45 .....	Educator..... 6
<b>Sex</b>		14 .....	Farmer or Rancher ..... 6
418.....	Male ..... 100	22 .....	Career Government Official..... 0
17.....	Female ..... 0	24 ..	Journalist or Communications Executive ... 4
<b>Age</b>		2 .....	Physician..... 0
27.....	Youngest..... 34	1 .....	Veterinarian ..... 1
77.....	Oldest..... 80	0 .....	Geologist ..... 2
48.....	Average (arithmetic mean) ..... 54	6 .....	Worker or Skilled Tradesperson ..... 0
<b>Religion</b>		25 .....	Other ..... 3
255.....	Protestant ..... 69	<b>Ethnic Group</b>	
107.....	Catholic..... 12	17 .....	Black American..... 1
18.....	Jewish..... 5	2 .....	Asian American..... 3
4.....	Mormon..... 3	4 .....	Hispanic American ..... 0
51.....	Other..... 11		

21. In the Senate, if 25 male members were replaced by 25 female members, the ratio of male members to female members would be
- (A) 4 to 1  
(B) 3 to 1  
(C) 3 to 2  
(D) 2 to 1  
(E) 1 to 1
22. Approximately what percent of the members of Congress are lawyers?
- (A) 63%  
(B) 58%  
(C) 56%  
(D) 52%  
(E) 49%
23. If 5 senators are Catholic Democrats, how many senators are neither Catholic nor Democratic?
- (A) 79  
(B) 74  
(C) 69  
(D) 31  
(E) 21
24. If all lawyers and all women in the House of Representatives vote for the passage of a bill, how many more votes will be needed for a majority?
- (A) 435  
(B) 220  
(C) 3  
(D) 0  
(E) It cannot be determined from the information given.
25. Which of the following can be inferred from the information given in the chart?
- I. More than 80 percent of the men in Congress are members of the House of Representatives.  
II. The percent of members who are categorized as farmers or ranchers is greater for the House of Representatives than for the Senate.  
III. The median age in the Senate is 57.
- (A) I only  
(B) II only  
(C) III only  
(D) I and II  
(E) I and III

GO ON TO THE NEXT PAGE.

26. If  $xy \neq 0$ ,  $\frac{x-1}{xy} =$

(A)  $\frac{1}{x} - \frac{1}{xy}$

(B)  $\frac{x}{y} - \frac{1}{xy}$

(C)  $\frac{1}{y} - x$

(D)  $\frac{1}{y} - \frac{1}{xy}$

(E)  $\frac{1}{xy} - \frac{1}{y}$

27. The number 0.01 is how many times as great as the number  $(0.0001)^2$ ?

(A)  $10^2$

(B)  $10^4$

(C)  $10^6$

(D)  $10^8$

(E)  $10^{10}$

28. A certain cake recipe states that the cake should be baked in a pan 8 inches in diameter. If Jules wants to use the recipe to make a cake of the same depth but 12 inches in diameter, by what factor should he multiply the recipe ingredients?

(A)  $2\frac{1}{2}$

(B)  $2\frac{1}{4}$

(C)  $1\frac{1}{2}$

(D)  $1\frac{4}{9}$

(E)  $1\frac{1}{3}$

29. If  $x > 0$  and  $y > 0$ , which of the following is

equivalent to  $\frac{x}{y}\sqrt{\frac{y}{x^2}}$ ?

(A) 1

(B)  $\frac{\sqrt{x}}{\sqrt{y}}$

(C)  $\sqrt{x}$

(D)  $\frac{1}{\sqrt{x}}$

(E)  $\frac{1}{\sqrt{y}}$

30. The cost, in dollars, of manufacturing  $x$  refrigerators is  $9,000 + 400x$ . The amount received when selling these  $x$  refrigerators is  $500x$  dollars. What is the least number of refrigerators that must be manufactured and sold so that the amount received is at least equal to the manufacturing cost?

(A) 10

(B) 18

(C) 45

(D) 90

(E) 100

**STOP**

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT TURN TO ANY OTHER SECTION IN THE TEST.

# Appendix A

## GRE Scoring Guide: Present Your Perspective on an Issue

---

### Score 6

A 6 paper presents a cogent, well-articulated analysis of the complexities of the issue and conveys meaning skillfully.

A typical paper in this category

- presents an insightful position on the issue
  - develops the position with compelling reasons and/or persuasive examples
  - sustains a well-focused, well-organized analysis, connecting ideas logically
  - expresses ideas fluently and precisely, using effective vocabulary and sentence variety
  - demonstrates facility with the conventions (i.e., grammar, usage, and mechanics) of standard written English but may have minor errors
- 

### Score 5

A 5 paper presents a generally thoughtful, well-developed analysis of the complexities of the issue and conveys meaning clearly.

A typical paper in this category

- presents a well-considered position on the issue
  - develops the position with logically sound reasons and/or well-chosen examples
  - is focused and generally well organized, connecting ideas appropriately
  - expresses ideas clearly and well, using appropriate vocabulary and sentence variety
  - demonstrates facility with the conventions of standard written English but may have minor errors
- 

### Score 4

A 4 paper presents a competent analysis of the issue and conveys meaning adequately.

A typical paper in this category

- presents a clear position on the issue
  - develops the position on the issue with relevant reasons and/or examples
  - is adequately focused and organized
  - expresses ideas with reasonable clarity
  - generally demonstrates control of the conventions of standard written English but may have some errors
- 

### Score 3

A 3 paper demonstrates some competence in its analysis of the issue and in conveying meaning but is obviously flawed.

A typical paper in this category exhibits ONE OR MORE of the following characteristics:

- is vague or limited in presenting or developing a position on the issue
  - is weak in the use of relevant reasons or examples
  - is poorly focused and/or poorly organized
  - has problems in language and sentence structure that result in a lack of clarity
  - contains occasional major errors or frequent minor errors in grammar, usage, or mechanics that can interfere with meaning
- 

### Score 2

A 2 paper demonstrates serious weaknesses in analytical writing.

A typical paper in this category exhibits ONE OR MORE of the following characteristics:

- is unclear or seriously limited in presenting or developing a position on the issue
  - provides few, if any, relevant reasons or examples
  - is unfocused and/or disorganized
  - has serious problems in the use of language and sentence structure that frequently interfere with meaning
  - contains serious errors in grammar, usage, or mechanics that frequently obscure meaning
- 

### Score 1

A 1 paper demonstrates fundamental deficiencies in analytical writing.

A typical paper in this category exhibits ONE OR MORE of the following characteristics:

- provides little or no evidence of the ability to understand and analyze the issue
  - provides little or no evidence of the ability to develop an organized response
  - has severe problems in language and sentence structure that persistently interfere with meaning
  - contains pervasive errors in grammar, usage, or mechanics that result in incoherence
- 

### Score 0

Off topic (i.e. provides no evidence of an attempt to respond to the assigned topic), in a foreign language, merely copies the topic, consists of only keystroke characters, or is illegible, or nonverbal.

---

### NS

Blank

## GRE Scoring Guide: Analyze an Argument

---

### Score 6

A 6 paper presents a cogent, well-articulated critique of the argument and conveys meaning skillfully.

A typical paper in this category

- clearly identifies important features of the argument and analyzes them insightfully
  - develops ideas cogently, organizes them logically, and connects them with clear transitions
  - effectively supports the main points of the critique
  - demonstrates control of language, including appropriate word choice and sentence variety
  - demonstrates facility with the conventions (i.e., grammar, usage, and mechanics) of standard written English but may have minor errors
- 

### Score 5

A 5 paper presents a generally thoughtful, well-developed critique of the argument and conveys meaning clearly.

A typical paper in this category

- clearly identifies important features of the argument and analyzes them in a generally perceptive way
  - develops ideas clearly, organizes them logically, and connects them with appropriate transitions
  - sensibly supports the main points of the critique
  - demonstrates control of language, including appropriate word choice and sentence variety
  - demonstrates facility with the conventions of standard written English but may have minor errors
- 

### Score 4

A 4 paper presents a competent critique of the argument and conveys meaning adequately.

A typical paper in this category

- identifies and analyzes important features of the argument
  - develops and organizes ideas satisfactorily but may not connect them with transitions
  - supports the main points of the critique
  - demonstrates sufficient control of language to express ideas with reasonable clarity
  - generally demonstrates control of the conventions of standard written English but may have some errors
- 

### Score 3

A 3 paper demonstrates some competence in its critique of the argument and in conveying meaning but is obviously flawed.

A typical paper in this category exhibits ONE OR MORE of the following characteristics:

- does not identify or analyze most of the important features of the argument, although some analysis of the argument is present
  - mainly analyzes tangential or irrelevant matters, or reasons poorly
  - is limited in the logical development and organization of ideas
  - offers support of little relevance and value for points of the critique
  - lacks clarity in expressing ideas
  - contains occasional major errors or frequent minor errors in grammar, usage, or mechanics that can interfere with meaning
- 

### Score 2

A 2 paper demonstrates serious weaknesses in analytical writing.

A typical paper in this category exhibits ONE OR MORE of the following characteristics:

- does not present a critique based on logical analysis, but may instead present the writer's own views on the subject
  - does not develop ideas, or is disorganized and illogical
  - provides little, if any, relevant or reasonable support
  - has serious problems in the use of language and in sentence structure that frequently interfere with meaning
  - contains serious errors in grammar, usage, or mechanics that frequently obscure meaning
- 

### Score 1

A 1 paper demonstrates fundamental deficiencies in analytical writing.

A typical paper in this category exhibits MORE THAN ONE of the following characteristics:

- provides little or no evidence of the ability to understand and analyze the argument
  - provides little or no evidence of the ability to develop an organized response
  - has severe problems in language and sentence structure that persistently interfere with meaning
  - contains pervasive errors in grammar, usage, or mechanics that result in incoherence
- 

### Score 0

Off topic (i.e. provides no evidence of an attempt to respond to the assigned topic), in a foreign language, merely copies the topic, consists of only keystroke characters, or is illegible, or nonverbal.

---

**NS**  
Blank

## 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, the average of the scores for the two tasks, 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. Because the test assesses “analytical writing,” critical thinking skills (the ability to reason, assemble evidence to develop a position, and communicate complex ideas) weigh more heavily than the writer’s control of fine points of grammar or the mechanics of writing (e.g., spelling).

**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 language 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 language usage but may have minor errors that do not interfere with meaning.

**SCORES 4 and 3.5** – Provides competent analysis of complex ideas; develops and supports main points with relevant reasons and/or examples; is adequately organized; conveys meaning with reasonable clarity; demonstrates satisfactory control of sentence structure and language usage but may have some errors that affect clarity.

**SCORES 3 and 2.5** – Displays some competence in analytical writing, 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 language usage, with errors that often result in vagueness or 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; lack of organization; serious and frequent problems in sentence structure or language usage, with errors that obscure meaning.

**SCORES 1 and .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 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.

# Appendix B

## Interpretive Data for the Verbal and Quantitative Sections

### Answer Key and Percentages\* of Examinees Answering Each Question Correctly

VERBAL ABILITY					
Section II			Section IV		
Number	Answer	P+	Number	Answer	P+
1	A	90	1	A	84
2	B	82	2	E	86
3	B	81	3	B	87
4	E	77	4	C	80
5	D	70	5	A	74
6	C	62	6	B	71
7	C	28	7	C	68
8	D	96	8	C	98
9	C	85	9	D	76
10	C	46	10	C	70
11	A	46	11	B	63
12	D	46	12	A	60
13	A	39	13	B	48
14	E	36	14	B	48
15	E	35	15	D	26
16	A	26	16	D	35
17	C	63	17	A	58
18	B	63	18	D	97
19	A	64	19	B	89
20	C	75	20	D	51
21	E	64	21	B	66
22	D	46	22	A	33
23	D	51	23	B	48
24	B	62	24	C	74
25	A	59	25	D	70
26	E	52	26	A	51
27	B	66	27	C	48
28	E	89	28	E	89
29	A	86	29	B	87
30	E	76	30	E	69
31	B	78	31	E	58
32	C	41	32	E	30
33	E	37	33	C	44
34	D	36	34	A	25
35	C	35	35	E	31
36	A	29	36	D	36
37	A	18	37	D	25
38	D	21	38	E	19

QUANTITATIVE ABILITY					
Section III			Section V		
Number	Answer	P+	Number	Answer	P+
1	A	85	1	C	94
2	C	84	2	A	80
3	B	79	3	C	85
4	D	76	4	B	76
5	C	57	5	A	64
6	D	70	6	B	67
7	B	69	7	B	72
8	D	52	8	D	69
9	B	52	9	A	34
10	A	50	10	C	38
11	A	42	11	D	19
12	D	26	12	D	59
13	C	57	13	C	42
14	B	52	14	D	28
15	A	35	15	B	40
16	E	75	16	B	88
17	E	86	17	E	80
18	D	81	18	B	77
19	A	83	19	A	74
20	B	63	20	C	71
21	B	92	21	B	84
22	C	90	22	D	58
23	B	71	23	D	54
24	E	58	24	E	63
25	D	71	25	A	34
26	C	47	26	D	51
27	D	32	27	C	52
28	E	44	28	B	32
29	A	19	29	E	49
30	E	47	30	D	57

\* Estimated P+ is based on those examinees who took the General Test between October 1, 1989 and September 30, 1992.

## Score Conversions and Percents Below\* for the Verbal and Quantitative Sections

Raw Score	VERBAL		QUANTITATIVE		Raw Score	VERBAL		QUANTITATIVE	
	Scaled Score	% Below	Scaled Score	% Below		Scaled Score	% Below	Scaled Score	% Below
74-76	800	99			39	430	39	610	53
73	790	99			38	420	36	600	50
72	780	99			37	410	33	580	46
71	760	99			36	400	30	570	44
70	750	99			35	390	27	560	42
					34	380	25	550	40
69	740	99			33	380	25	540	37
68	730	99			32	370	22	530	36
67	720	98			31	360	19	520	34
66	710	97			30	350	17	500	29
65	700	97							
64	680	95			29	340	14	490	27
63	670	94			28	340	14	480	25
62	660	93			27	330	12	470	23
61	650	92			26	320	9	450	20
60	640	91	800	94	25	310	7	440	18
					24	310	7	420	15
59	630	89	800	94	23	300	5	410	14
58	620	88	800	94	22	290	4	390	11
57	600	85	800	94	21	280	3	380	10
56	590	82	790	91	20	280	3	370	9
55	580	80	780	89					
54	570	78	770	86	19	270	2	350	6
53	560	76	760	84	18	260	1	340	6
52	550	73	740	80	17	260	1	320	4
51	540	70	730	78	16	250	1	300	3
50	540	70	720	75	15	240	1	290	2
					14	230	1	270	1
49	530	67	710	73	13	220	1	260	1
48	520	65	700	71	12	210	1	240	1
47	510	62	690	69	11	210	1	220	1
46	490	57	680	68	10	200	1	200	1
45	480	54	670	66					
44	470	51	660	64	9	200	1	200	1
43	460	48	650	61	8	200	1	200	1
42	460	48	640	59	7	200	1	200	1
41	450	45	630	57	6	200	1	200	1
40	440	42	620	55	5	200	1	200	1
					0-4	200	1	200	1

\* Percent scoring below the scaled score is based on the performance of all examinees who took the General Test between October 1, 1998, and September 30, 2001.

## Verbal and Quantitative Mean Scores Classified by Broad Intended Graduate Major Field

(Based on the performance of seniors and nonenrolled college graduates\*\* who tested between October 1, 1998, and September 30, 2001)

Broad Intended Graduate Major Field	Approximate Number of Examinees	Verbal Ability	Quantitative Ability
Life Sciences	107,600	464	568
Physical Sciences	45,700	491	694
Engineering	46,600	474	721
Social Sciences	79,500	484	548
Humanities and Arts	39,300	541	549
Education	36,200	450	521
Business	6,500	444	570

\*\* Limited to those who earned their college degrees up to two years prior to the test date. Note that this table does not include summary information on the approximately 45,388 examinees whose response was invalid (misgrids, blanks, etc.) or the approximately 17,474 examinees whose response was "undecided." Most of the standard deviations of the score distribution represented by the means in this table are between 90 and 125.

# Appendix C

## Analytical Writing Topics, Sample Scored Essay Responses\* at Selected Score Points, and Reader Commentary

### Issue Topic 1

“Our declining environment may bring the people of the world together as no politician, philosopher, or war ever could. Environmental problems are global in scope and respect no nation’s boundaries. Therefore, people are faced with the choice of unity and cooperation on the one hand or disunity and a common tragedy on the other.”

#### Essay Response – Score 6

Cooperation—or Tragedy?

The solution to the world’s growing environmental problems may have to wait awhile. It has been said that “environmental problems are global and respect no nation’s boundaries.” Unfortunately, pollution and its consequences still fall to large measure on those least likely to do anything about it: poor countries willing to sacrifice anything in order to sit at the table with the world’s wealthy.

As far as the industrialized nations of the world are concerned, the world is a big place. Environmental destruction taking place outside their borders may sometimes be fodder for government pronouncements of concern, but few concrete actions. Deforestation of the Amazon, for instance, is of vital concern to all those who wish to continue breathing. But the only effective deterrent to this activity, the restriction of international aid money to those countries showing net deforestation, has been stalled in the United Nations by those unwilling to “interfere” in the internal politics of other nations.

Because of the differential impact of polluting activities around the world, and even in different regions of a single country, many governments will undoubtedly continue to promulgate only modest environmental regulations. Costs to polluting companies will continue to carry as much weight as the benefit of a pollution-free environment. Particularly in the current political climate of the United States,

the well-documented expense of today’s pollution-control measures will be stacked against the unknown long-term effects of polluting activities. “Why should I spend millions of dollars a year, which causes me to have to raise the cost of my goods or eliminate jobs, if no one really knows if air pollution is all that harmful? Show me the proof,” an air polluting company may demand.

Realistically, it won’t be until critical mass is achieved that the hoped for “choice of unity and cooperation” will be a viable one. Only when the earth as a whole is so polluted that life itself becomes increasingly difficult for a majority of the world’s people will there likely be the political will to force global environmental laws on governments worldwide. But the optimists (read: environmental activists) among us continue to believe that the world can be shown the error of its ways. They continue to point out that the sky is probably falling—or at least developing a big hole. The world, as a whole, ignores them.

One would hope, however, that governments, perhaps through a strengthened U.N., could somehow be forced to realize that when the Earth reaches the critical mass of pollution, it may be too late to do anything about it. That would be a “common tragedy” indeed.

#### Reader Commentary for Essay Response – Score 6

This excellent response displays an in-depth analysis of the issue, conveyed through the skillful use of language.

While acknowledging that environmental problems are serious and of global dimensions, the discussion explores the complexity of international cooperation. Such cooperation, the paper argues, runs into a variety of problems, and the writer offers persuasive examples to support that point:

- the unwillingness of nations to “interfere” with other nations through political measures such as restriction of foreign aid
- inadequate environmental regulations, which are caused both by “the differential impact of polluting activities” between countries and regions and by the difficulty of comparing the “long-term effects of polluting activities” with the more easily documented, short-term costs of reducing pollution.

\* Responses are reproduced exactly as written, including errors, misspellings, etc., if any.



The paper distinguishes itself in part by its excellent organization. The first paragraph analyzes the claim and announces the writer's position; the second and third paragraphs provide clear examples supporting that position. The skillful use of a quotation from a business person vividly illustrates the economic impact of pollution controls. The last two paragraphs bring a sense of closure to the essay by continuing the theme announced in the first paragraph—that cooperation must wait until more dire circumstances produce the political will necessary to reduce pollution.

Transitional phrases—"because," "however," "for instance"—help guide the reader through the argument. Also, effective sentence variety and the use of precise vocabulary help clarify meaning and confirm the score of 6.

#### **Essay Response – Score 4**

Our declining environment may bring the people of the world together as no politician, philosopher, or war ever could. Environmental issues are a growing concern in our country today. It is an issue that concerns every person, no one is excluded.

Facing and solving environmental issues calls for unity and cooperation. Prejudices should be put aside in this time of need. Without unity our world as we know it will not exist in twenty-five years. People as a whole need to take action. Without unity and cooperation little will be accomplished.

There are many environmental issues we are facing today. For example, recycling is a simple and effective way to help the environment. If everyone did a small part the results would be enormous. Recycling is a good example because it is something every single person is capable of doing.

There are many ways people of any age, race, or sex can contribute to help the environment. Emissions testing for exhausts on automobiles is one way to help keep unnecessary pollutants from contaminating the air. Very few cities require emissions testing for automobiles. Columbus, for example, does not require emissions testing. My small hometown of Amherst, Ohio does require this test.

I believe the government needs to implement stricter regulations regarding environmental issues and also increase the funding that is allotted for it. Mandatory recycling laws with a stiff penalty for breaking the law is one solution. Funding for groups to do research is imperative. Without research there

is very little we would know about anything including diseases and microorganisms.

People of the world need to understand the situation our generation and generations to come are faced with. This understanding needs to come from education. The United States has always been a forerunner in wars, peace talks, etc. It is now time for the United States to be the leader in solutions to environmental concerns. The greatest barrier in any situation is communication. If we communicate with each other and work together instead of apart results would be seen. Education is another great concern, especially in underdeveloped countries and third world nations. There is a lack of education in many of these countries. Education is the key to success.

In summary I would like to emphasize the importance in unity and cooperation on global concerns such as the environment. Also education is very important in making headway. I also believe the government should get more involved in these issues.

#### **Reader Commentary for Essay Response – Score 4**

This paper presents and supports an adequate analysis of the issue. After stating the need for cooperation on the environment, the writer proposes several very specific remedies for environmental problems: recycling, emissions testing, research, education, and communication. The detailed description of emissions testing is useful; however, the other remedies (recycling, research, etc.) are not developed fully or persuasively.

In some areas the response suffers from needless repetition. Paragraph six, for example, moves from education to communication and back to education. The conclusion, moreover, adds little, merely repeating earlier statements.

The control of grammar and usage is generally competent, but the sentences tend to be choppy. Although most of the ideas are stated clearly, the relationship between the ideas is not always made clear: "Also education is very important in making headway. I also believe the government should get more involved in these issues."

#### **Essay Response – Score 2**

Environmental problems will require a joint effort among people to solve, however, environmental problems may not cause people to come together. Should the problems continue for an extended period of time before any effort is made to solve them, they

will reach a point of no return no matter how people come together to work on it. When this happens there will be increased shortage in our natural resources. As supply of our resources goes down and demand remains the same or goes up there will be increased pressure to claim what resources remain. So instead of people working together to solve the problem, they will be fighting for what's left by the problem.

To solve this, people need to come together before the problem reaches a state of no return. This may be hard to do since the effects of environmental problems are not yet felt by a large degree (if felt at all) by everyone. At this point in time many feel it is not their problem to worry about since it does not immediately affect them. To remedy this people should become more aware of their current environment.

### **Reader Commentary for Essay Response – Score 2**

This response is seriously flawed. Its strongest feature is a fairly clear position: it agrees with the claim that environmental problems will require cooperation and presents a scenario for what will happen if there is no cooperation—conflict over diminishing resources. However, the writer offers little support for that position. Threatened “resources” and the “effects of environmental problems” are mentioned but not specified, and the paper provides no examples of how people might “come together” to address the problem or how they might “become more aware of their current environment.”

Some of the sentences are worded clearly (“So instead of people working together . . .”), but others are so flawed by imprecise word choice that the meaning is difficult to understand: “. . . not yet felt by a large degree (if felt at all) by everyone.”

Also, run-on sentences (the first sentence, for example) and unclear pronoun references add to the confusion, reinforcing the score of 2.

### **Issue Topic 2**

“Both the development of technological tools and the uses to which humanity has put them have created modern civilizations in which loneliness is ever increasing.”

### **Essay Response – Score 6**

Technology, broadly defined as the use of tools, has a long history. Ever since Erg the caveman first conked an animal with a rock, people have been using technology. For thousands of years, the use of tools

allowed people to move ever closer together. Because fields could be cultivated and the technology to store food existed, people would live in cities rather than in small nomadic tribes. Only very lately have Erg's descendants come to question the benefits of technology. The Industrial Revolution introduced and spread technologies that mechanized many tasks. As a result of the drive toward more efficient production and distribution (so the ever larger cities would be supported), people began to act as cogs in the technological machine. Clothing was no longer produced by groups of women sewing and gossiping together, but by down-trodden automation's operating machinery in grim factories.

The benefits of the new technology of today, computers and the internet, are particularly ambiguous. They have made work ever more efficient and knit the world together in a web of information and phone lines. Some visionaries speak of a world in which Erg need not check in to his office; he can just dial in from home. He won't need to go to a bar to pick up women because there are all those chat rooms. Hungry? Erg orders his groceries from an online delivery service. Bored? Download a new game. And yet...

Many people, myself included, are a little queasy about that vision. Erg may be doing work, but is it real work? Are his online friends real friends? Does anything count in a spiritual way if it's just digital? Since the Industrial Revolution, we have been haunted by the prospect that we are turning into our machines: efficient, productive, soulless. The newest technologies, we fear, are making us flat as our screens, turning us into streams of bits of interchangeable data. We may know a lot of people, but we have few real friends. We have a lot of things to do, but no reason to do them. In short, the new technology emphasizes a spiritual crisis that has been building for quite some time.

As I try to unravel which I believe about the relative merits of technology, I think it is instructive to remember technology's original result. A better plow meant easier farming, more food, longer lives, and more free time to pursue other things such as art. Our newest technology does not give us more free time; it consumes our free time. We are terminally distracted from confronting ourselves or each other. We stay safe, and lonely, in our homes and offices rather than taking the risk of meeting real people or trying new things.

While I am certainly not a Luddite, I do believe we need to look for a bit more balance between technology and life. We have to tear ourselves away from the fatal distractions and go out into the world. Technology has given us long lives and endless supplies of information. Now we need to apply that information, use the time we're not spending conking our dinner with a club, and find our reasons for living.

#### **Reader Commentary for Essay Response – Score 6**

This outstanding response displays cogent reasoning, insightful, persuasive analysis, and superior control of language. The response immediately identifies the complexities of the issue and then playfully explores both the benefits and the drawbacks of technological developments over the course of human history. The writer maintains that a “balance between technology and life” is necessary if humans are going to abate the loneliness that is part of modern existence.

In contrasting the intended purpose of technology at the beginning of the Industrial Revolution with the end result of the use of today's technology, the writer skillfully expands the initial position and makes a sound point: While technological developments have helped society in a practical way, they have contributed to a spiritual crisis that has been building for quite some time.

The analysis is tightly organized. With well-chosen examples and a character called Erg, the response moves well beyond a listing of examples, developing the analysis over five focused paragraphs, each building on the previous one. The conclusion—that as a result of technology the individual begins to lose sight of the need to connect with fellow citizens in a meaningful way—follows directly from the preceding paragraphs, while adding substantive analysis.

This writer is clearly in command of language and syntax, varying the sentence structure to express concepts succinctly. Word choice is generally precise and often highly effective, as in the following examples: “down-trodden automation,” and “haunted by the prospect that we are turning into our machines: efficient, productive, soulless.”

#### **Essay Response – Score 4**

Looking at the above statement, I see a lot of truth to the statement. There are many ways that society has used the advanced technology in order to isolate

themselves. It may or may not be a conscious move, but the results are all the same. The isolation occurs in a variety of ways and in all different areas. By computerizing factories, there are more and more people working long hours by themselves, with there only companion as a computer monitor. Although the company may be getting better production, the question that needs to be asked is at what cost to their employees.

It is not only the management of big factories that are responsible for this isolation. This loneliness can be seen in many other settings. With the growing popularity of the television, the nation is seeing a decline in families talking and an increase in watching the television. Not only can this result in a generation of “coach potatoes”, it also causes less communication and a feeling of isolation from everyone that a person cares about.

So far technology has entered the work place and the home, it has also entered the social realm. When you go to order food in the drive-thru, who is or better yet what is it that you talk to? It is a machine, although there is a person on the other end, you are still reciting your order to a machine. If it is ten o'clock at night and you need money, there are ATM's. All of these gadgets may be very nice and convenient, but they result in lack of human contact.

Although it might be easy to blame technology for our feelings of loneliness, it is just a cop out. By looking at all the ways technology causes isolation, it is still people who choose to use these convenient methods. If a person wants to have human contact, all they have to do is go inside to the bank or go inside the restaurant to order. What it basically boils down to, is that it is our choice whether or not we use technology. It is a scary thought to think maybe one day we might live in a society where you will never have to leave your house. That by using FAX machines, computers, modems, and the telephone a person would never have to have human contact to get their job done. The thing is that if that is not what we as a society wants, we are the ones to speak out and change the outcome.

#### **Reader Commentary for Essay Response – Score 4**

This is a competent discussion of the issue. The position presented in the first paragraph—that “there are many ways that society has used the advanced technology in order to isolate themselves”—is adequately sustained, but the examples are not always

clearly relevant (e.g., in the case of paragraph one’s “computerizing” of factories, the decision to use the technology is not made by the individual worker.) Also, the reasoning is not developed as fully as it would be in a response at the score level of 6 or 5.

While organization is adequate, the response lacks the organized coherence of ideas that exemplify a 5 essay. Transitions, within and between paragraphs, are not always logical. The last paragraph could be much more clearly focused: since several sentences repeat the same idea—that “it is our choice whether or not we use technology”—and the purpose or meaning of others (e.g., the last) is not immediately clear.

In general, ideas are presented clearly, although awkward phrasing sometimes contributes to vagueness (e.g., “By looking at all the ways technology causes isolation, it is still people who choose to use these convenient methods”). Lack of sentence variety seems to inhibit the communication of ideas (e.g., many short sentences are often used where one or two compound ones could make the points more effectively). Overall, however, this is an adequate response to the topic.

### **Essay Response – Score 2**

Computers of all shapes and sizes, p.c.’s, laptops, faxes, phones, the list never ends. All considered by our society as great technological advances. Not many would argue that the development of these tools has not advanced our world in some ways. However they certainly seem to be making our world one in which contact with our fellow man is less and less necessary. Though some may be more comfortable not having to engage in direct contact, it is questionable whether this is beneficial to society as a whole. The very least result could in fact be a very lonely world, but it may result in more significant problems.

### **Reader Commentary for Essay Response – Score 2**

This response is seriously flawed. The analysis of the issue is extremely limited, and there are serious problems in sentence structure. The writer’s position, never clearly stated, seems to be that as a result of technological developments, “contact with our fellow man is less and less necessary.” However, the implications of this statement (and others) are never explored or developed. Furthermore, the list of technological advancements does not support or clarify the writer’s already tenuously held position.

Each new sentence could serve as a springboard to a thoughtful analysis but instead takes the response further from the apparent premise.

This response received a score of 2, not because of language problems, but because reasoning, analysis, and development are extremely thin and insubstantial.

### **Argument Topic**

“Six months ago the region of Forestville increased the speed limit for vehicles traveling on the region’s highways by ten miles per hour. Since that change took effect, the number of automobile accidents in that region has increased by 15 percent. But the speed limit in Elmsford, a region neighboring Forestville, remained unchanged, and automobile accidents declined slightly during the same six-month period. Therefore, if the citizens of Forestville want to reduce the number of automobile accidents on the region’s highways, they should campaign to reduce Forestville’s speed limit to what it was before the increase.”

### **Essay Response – Score 6**

The argument is well-presented, but not thoroughly well-reasoned. By making a comparison of the region of Forestville, the town with the higher speed limit and therefore automobile accidents, with the region of Elmsford, an area of a lower speed limit and subsequently fewer accidents, the argument for reducing Forestville’s speed limits in order to decrease accidents seems logical.

However, the citizens of Forestville are failing to consider other possible alternatives to the increasing car accidents after the raise in speed limit. Such alternatives may include the fact that there are less reliable cars traveling the roads in Forestville, or that the age bracket of those in Elmsford may be more conducive to driving safely. It is possible that there are more younger, inexperienced, or more elderly, unsafe drivers in Forestville than there are in Elmsford. In addition, the citizens have failed to consider the geographical and physical terrain of the two different areas. Perhaps Forestville’s highway is in an area of more dangerous curves, sharp turns, or has many intersections or merging points where accidents are more likely to occur. It appears reasonable, therefore, for the citizens to focus on these trouble spots than to reduce the speed in the entire area. Elmsford may be an area of easier driving conditions where accidents are less likely to occur regardless of the speed limit.

A six-month period is not a particularly long time frame for the citizens to determine that speed limit has influenced the number of automobile accidents in the area. It is mentioned in the argument that Elmsford accidents decreased during the time period. This may have been a time, such as during harsh weather conditions, when less people were driving on the road and therefore the number of accidents decreased. However, Forestville citizens, perhaps coerced by employment or other requirements, were unable to avoid driving on the roads. Again, the demographics of the population are important. It is possible that Elmsford citizens do not have to travel far from work or work from their home, or do not work at all. Are there more people in Forestville than there were six months ago? If so, there may be an increased number of accidents due to more automobiles on the road, and not due to the increased speed limits. Also in reference to the activities of the population, it is possible that Forestville inhabitants were traveling during less safe times of the day, such as early in the morning, or during twilight. Work or family habits may have encouraged citizens to drive during this time when Elmsford residents may not have been forced to do so.

Overall, the reasoning behind decreasing Forestville's speed limit back to its original seems logical as presented above since the citizens are acting in their own best interests and want to protect their safety. However, before any final decisions are made about the reduction in speed limit, the citizens and officials of Forestville should evaluate all possible alternatives and causes for the increased number of accidents over the six-month period as compared to Elmsford.

#### **Reader Commentary for Essay Response – Score 6**

This outstanding response begins by noting that the argument is “well presented.” It then proceeds to discuss possible alternative explanations for the increase in car accidents and provides an impressively full analysis. Alternatives mentioned are that

- the two regions might have drivers of different ages and experience;
- Forestville's topography, geography, cars, and/or roads might contribute to accidents;
- six months might be an insufficient amount of time for determining that the speed limit is linked to the accident rate;

- demographics might play a role in auto accidents;
- population and auto density should be considered; and
- the times of day when drivers in the two regions travel might be relevant.

The points are cogently developed and are linked in such a way as to create a logically organized critique. Transitions together with interior connections create a smoothly integrated presentation. For the most part, the writer uses language correctly and well and provides excellent variety in syntax. The minor flaws (e.g., using “less” instead of “fewer”) do not detract from the overall high quality of the critique. This is an impressive 6 paper.

#### **Essay Response – Score 4**

At first look, this seems to be a very well presented argument. A logical path is followed throughout the paragraph and the conclusion is expected. However, upon a second consideration, it is apparent that all possibilities were not considered when the author presented his conclusion (or at least that s/he did not present all of the possibilities). There are numerous potential explanations for why the number of accidents in Elmsford decreased while the number in Forestville increased. Although it seems logical to assume that the difference in the percentage of accidents was due to the difference in whether or not the speed limit had been increased during the specified month, this does not necessarily mean that the speed limit should be reduced back to what it originally was in Forestville. The author does not state two specific pieces of information that are important before a conclusion such as the one the author made is sound. The first is that it is not expressed whether the speed limits in the two neighboring regions had had the same speed limit before Forestville's speed limit had been increased. If they had originally been the same, then it is reasonable to conclude that Forestville's speed limit should be reduced back to what it was before the increase. However, if the two region's speed limits were initially different, then such a conclusion can not be made. The second piece of information that is necessary for the present argument is the relative number of accidents in each of the areas prior to the increase in speed limit. For the author to make the presented conclusion, the number of accidents should have been approximately equal prior to the increase in the speed limit in Forestville. If the two missing pieces of information

had been presented and were in the author's favor, then the conclusion that the author made would have been much more sound than it currently is. In conclusion, the argument is not entirely well reasoned, but given the information that was expressed in the paragraph, it was presented well, and in a logical order.

#### **Reader Commentary for Essay Response – Score 4**

This competent critique claims that there are “numerous potential explanations for why the number of accidents in Elmsford decreased while the number in Forestville increased.” However, the author discusses only two points:

- whether the speed limits in the two regions were originally the same; and
- the number of accidents in each region prior to Forestville's raising the speed limit.

Although the response appears at first to be well developed, there is much less analysis here than the length would suggest. The first third and last third of the essay are relatively insubstantial, consisting mainly of general summary statements (e.g., “A logical path . . . conclusion is expected” and “If the two . . . more sound than it currently is”). The real heart of the critique consists of minimal development of the two points mentioned above. Therefore, although two important features of the argument are analyzed and the writer handles language and syntax adequately, the lack of substantial development keeps this critique from earning a score higher than 4.

#### **Essay Response – Score 2**

The argument gives statistics of increases in automobile accidents since the speed limit increased six months ago on the highways of Forestville. The

argument also gives a statement of how the neighboring region of Forestville, did not increase or decrease the speed limit. It remained unchanged and automobile accidents declined slightly during the same six-month period. The argument may appeal to those who have been effected by the increase in accidents, but it does not give an emotional appeal overall. We are relying on the authors statistics but we don't know where they came from and if they are reliable. The argument needs more examples and illustrations to get his point across to more people. It is suggested that the citizens of Forestville campaign to reduce Forestville's speed limit to what it was before the increase, but it is usually hard to start a campaign. One person needs to take action. If the author is a citizen of Forestville, maybe he should take the initiative.

#### **Reader Commentary for Essay Response – Score 2**

This seriously flawed critique presents only one idea relevant to an analysis of the argument: “The argument needs more examples and illustrations to get his point across to more people.” Everything else in the essay is either summarizing the argument, speculating, or offering advice. The result is a response that is clearly on topic but that provides no analysis of the line of reasoning in the argument.

In addition to the lack of analysis, the writing is weak. The organization is loose, although not illogical, and intended meaning is sometimes unclear (e.g., “. . . but it does not give an emotional appeal overall.”). For these reasons, the response deserves a score of 2 according to the scoring guide.






















GENERAL TEST

**DO NOT WRITE IN THIS AREA.**



BE SURE EACH MARK IS DARK AND COMPLETELY FILLS THE INTENDED SPACE AS ILLUSTRATED HERE: ● .  
 YOU MAY FIND MORE RESPONSE SPACES THAN YOU NEED. IF SO, PLEASE LEAVE THEM BLANK.

SECTION 4					SECTION 5				
1	(A)	(B)	(C)	(D) (E)	1	(A)	(B)	(C)	(D) (E)
2	(A)	(B)	(C)	(D) (E)	2	(A)	(B)	(C)	(D) (E)
3	(A)	(B)	(C)	(D) (E)	3	(A)	(B)	(C)	(D) (E)
4	(A)	(B)	(C)	(D) (E)	4	(A)	(B)	(C)	(D) (E)
5	(A)	(B)	(C)	(D) (E)	5	(A)	(B)	(C)	(D) (E)
6	(A)	(B)	(C)	(D) (E)	6	(A)	(B)	(C)	(D) (E)
7	(A)	(B)	(C)	(D) (E)	7	(A)	(B)	(C)	(D) (E)
8	(A)	(B)	(C)	(D) (E)	8	(A)	(B)	(C)	(D) (E)
9	(A)	(B)	(C)	(D) (E)	9	(A)	(B)	(C)	(D) (E)
10	(A)	(B)	(C)	(D) (E)	10	(A)	(B)	(C)	(D) (E)
11	(A)	(B)	(C)	(D) (E)	11	(A)	(B)	(C)	(D) (E)
12	(A)	(B)	(C)	(D) (E)	12	(A)	(B)	(C)	(D) (E)
13	(A)	(B)	(C)	(D) (E)	13	(A)	(B)	(C)	(D) (E)
14	(A)	(B)	(C)	(D) (E)	14	(A)	(B)	(C)	(D) (E)
15	(A)	(B)	(C)	(D) (E)	15	(A)	(B)	(C)	(D) (E)
16	(A)	(B)	(C)	(D) (E)	16	(A)	(B)	(C)	(D) (E)
17	(A)	(B)	(C)	(D) (E)	17	(A)	(B)	(C)	(D) (E)
18	(A)	(B)	(C)	(D) (E)	18	(A)	(B)	(C)	(D) (E)
19	(A)	(B)	(C)	(D) (E)	19	(A)	(B)	(C)	(D) (E)
20	(A)	(B)	(C)	(D) (E)	20	(A)	(B)	(C)	(D) (E)
21	(A)	(B)	(C)	(D) (E)	21	(A)	(B)	(C)	(D) (E)
22	(A)	(B)	(C)	(D) (E)	22	(A)	(B)	(C)	(D) (E)
23	(A)	(B)	(C)	(D) (E)	23	(A)	(B)	(C)	(D) (E)
24	(A)	(B)	(C)	(D) (E)	24	(A)	(B)	(C)	(D) (E)
25	(A)	(B)	(C)	(D) (E)	25	(A)	(B)	(C)	(D) (E)
26	(A)	(B)	(C)	(D) (E)	26	(A)	(B)	(C)	(D) (E)
27	(A)	(B)	(C)	(D) (E)	27	(A)	(B)	(C)	(D) (E)
28	(A)	(B)	(C)	(D) (E)	28	(A)	(B)	(C)	(D) (E)
29	(A)	(B)	(C)	(D) (E)	29	(A)	(B)	(C)	(D) (E)
30	(A)	(B)	(C)	(D) (E)	30	(A)	(B)	(C)	(D) (E)
31	(A)	(B)	(C)	(D) (E)	31	(A)	(B)	(C)	(D) (E)
32	(A)	(B)	(C)	(D) (E)	32	(A)	(B)	(C)	(D) (E)
33	(A)	(B)	(C)	(D) (E)	33	(A)	(B)	(C)	(D) (E)
34	(A)	(B)	(C)	(D) (E)	34	(A)	(B)	(C)	(D) (E)
35	(A)	(B)	(C)	(D) (E)	35	(A)	(B)	(C)	(D) (E)
36	(A)	(B)	(C)	(D) (E)	36	(A)	(B)	(C)	(D) (E)
37	(A)	(B)	(C)	(D) (E)	37	(A)	(B)	(C)	(D) (E)
38	(A)	(B)	(C)	(D) (E)	38	(A)	(B)	(C)	(D) (E)

**CERTIFICATION STATEMENT**

Please write the following statement below, **DO NOT PRINT.**  
 "I certify that I am the person whose name appears on this answer sheet. I also agree not to disclose the contents of the test I am taking today to anyone."  
 Sign and date where indicated.

**SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Month Day Year

**IF YOU DO NOT WANT THIS TEST TO BE SCORED**

If you want to cancel your scores from this test administration, complete A and B below. You will not receive scores for this test; however, you will receive confirmation of this cancellation. No record of this test or the cancellation will be sent to the recipients you indicated, and there will be no scores for this test on your GRE file. Once a score is canceled, it cannot be reinstated.

**To cancel your scores from this test administration, you must:**

A. Fill in both ovals here . . .  —  B. sign your full name here: \_\_\_\_\_

FOR ETS USE ONLY	V1R	V2R	VTR	VCS	Q1R	Q2R	QTR	QCS	A1R	A2R	ATR	ACS
------------------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



# NOTES

# NOTES

# NOTES

# NOTES

# NOTES

# NOTES

# NOTES

# Need More Test Prep?

## Find Out What You Need To Know Better!

Free preparation material is yours when you register for a GRE Test, but if you need more help, here's what's readily available.

### GRE Enhanced Diagnostic Service

Purchase the enhanced version of this online service and answer a series of interactive questions in 10 different skill areas on the verbal and quantitative sections of the GRE General Test. You'll receive immediate feedback on your performance including an assessment of your strengths and weaknesses.

In addition:

- Read descriptions of the particular skills measured
- See sample questions in each skill area, with strategies for answering each type of question
- Compare your performance in each skill area to the performance of others who have taken the GRE General Test

To learn more about the GRE Enhanced Diagnostic Service, visit the Web site at <http://grediagnostic.ets.org>.

### GRE ScoreItNow!™ Online Writing Practice

Purchase the online writing practice and receive feedback on your performance on topics in the analytical writing section of the GRE General Test. The essays are scored by e-rater®, ETS's automated scoring system.

- Compose and submit essay responses online
- Get immediate scores on your responses
- Review sample responses and general suggestions for improving your essay writing skills

To learn more about GRE ScoreItNow!™ Online Writing Practice, visit the Web site at [www.scoreitnow.org](http://www.scoreitnow.org).

### GRE: Practicing to Take the General Test—10th Edition

Purchase the only official test prep book for the GRE General Test.

- Verbal and quantitative sections from seven actual GRE General Tests and score conversion tables
- Two GRE analytical writing tests, sample questions, test-taking strategies, and scoring information
- A review of the mathematical skills needed for the test

To order visit, <http://www.ets.org/store.html> or call 1-800-537-3160 or 1-609-771-7243. Also available in many bookstores.

