

Practice Book  
for the Paper-based  
**GRE<sup>®</sup> revised  
General Test**

For tests administered beginning in August 2011

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

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



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## Overview of the Paper-based GRE® revised General Test

The revised General Test measures verbal reasoning, quantitative reasoning, critical thinking and analytical writing skills, skills that have been identified as critical for success in graduate and business school.

This publication provides a comprehensive overview of each measure of the test to help you get ready for test day. It is designed to help you:

- understand what is being tested
- gain familiarity with the various question types
- review test-taking strategies
- become familiar with the calculator that will be distributed on test day
- review scored Analytical Writing responses and reader commentary
- understand scoring
- practice taking the test

If you are planning to take the computer-based GRE® revised General Test, please visit [www.ets.org/gre/revised/prepare](http://www.ets.org/gre/revised/prepare) for test preparation materials for the computer-based test.

If you have a disability and need special accommodations, visit [www.ets.org/gre/revised/disabilities](http://www.ets.org/gre/revised/disabilities) for test preparation materials.

### Test Structure

The paper-based GRE revised General Test contains two Analytical Writing tasks, two Verbal Reasoning sections and two Quantitative Reasoning sections.

Total testing time is approximately 3 hours and 30 minutes. 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 tasks are always presented first.

### Typical Paper-based GRE revised General Test

Measure	Number of Questions	Time
Analytical Writing (2 sections)	Section 1 Analyze an Issue Section 2 Analyze an Argument	30 minutes per section
Verbal Reasoning (2 sections)	25 questions per section	35 minutes per section
Quantitative Reasoning (2 sections)	25 questions per section	40 minutes per section

Unlike the previous paper-based GRE General Test and the GRE Subject Tests, which use separate answer sheets, the paper-based GRE revised General Test is self-contained: you will enter all responses for the Analytical Writing tasks and the Verbal Reasoning and Quantitative Reasoning questions in the test book itself. Also, you are allowed to use a basic hand-held calculator on the Quantitative Reasoning sections. The calculator will be provided to you at the test site; you may not use your own calculator. Information about using the calculator to help you answer questions appears on page 32.

## Preparing for the GRE revised 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 paper-based GRE revised General Test, you should know what to expect from the test, including the administrative procedures, types of questions and directions, number of questions and amount of time for each section.

The administrative procedures include registration and appointment scheduling, 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 revised General Test in the *GRE Information and Registration Bulletin*. Information is also available online at [www.ets.org/gre/revised\\_general](http://www.ets.org/gre/revised_general) or by contacting ETS at 1-609-771-7670 or 1-866-473-4373 (toll free for test takers in the U.S., American Samoa, Guam, Puerto Rico, U.S. Virgin Islands and Canada).

Before taking the practice revised General Test, it is important to become familiar with the content of each of the measures. In this publication, you'll find information specific to each measure of the test. You can use this information to understand the type of material on which you will be tested and the question types within each measure. Determine which strategies work best for you. Remember—you can do very well on the test without answering every question in each section correctly.

## Test-taking Strategies

### Analytical Writing Measure

Everyone—even the most practiced and confident of writers—should spend some time preparing for the Analytical Writing measure before arriving at the

test center. It is important to understand the skills measured and how the tasks are scored. It is also useful to review the scoring guides, sample topics, scored sample essay responses and reader commentary for each task.

The tasks in the Analytical Writing measure relate to a broad range of subjects—from the fine arts and humanities to the social and physical sciences—but no task requires specific content knowledge. In fact, each task has been tested by actual GRE test takers 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 task and could easily respond to it.
- The task 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.

To help you prepare for the Analytical Writing measure, the GRE Program has published the entire pool of tasks from which your test tasks will be selected. You might find it helpful to review the Issue and Argument pools. You can view the published pools at [www.ets.org/gre/revised/awtopics](http://www.ets.org/gre/revised/awtopics).

Before taking the Analytical Writing measure, review the strategies, sample topics, essay responses and reader commentary for each task contained in this document. Also review the scoring guides for each task. This will give you a deeper understanding of how readers evaluate essays and the elements they're looking for in an essay.

In the paper-based revised General Test, the topics in the Analytical Writing measure will be presented in the test book, and you will handwrite your essay responses in the test book in the space provided.

It is important to budget your time. Within the 30-minute time limit for the Issue task, you will need to allow sufficient time to consider the issue and the specific instructions, 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 consider the argument and the specific instructions, plan a response and compose your essay. Although the GRE readers who score your essays 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 conditions.

Save a few minutes at the end of each section 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 lower your score accordingly.

### **Verbal Reasoning and Quantitative Reasoning Measures**

The questions in the Verbal Reasoning and Quantitative Reasoning measures have a variety of formats. Some require you to select a single answer choice; others require you to select one or more answer choices, and yet others require you to enter a numeric answer. Make sure when answering a question that you understand what response is required. Complete instructions for answering each question type are included in the practice test after the two Analytical Writing tasks.

When taking a Verbal Reasoning or Quantitative Reasoning section, you are free, within that section, to skip questions that you might have difficulty answering and come back to them later during the time provided to work on that section. Also during that time you may change the answer to any question in that section by erasing it completely and filling in an alternative answer. Be careful not to leave any stray marks in the answer area, as they may be interpreted as incorrect responses. You can, however, safely make notes or perform calculations on other parts of the page. No additional scratch paper will be provided.

Your Verbal Reasoning and Quantitative Reasoning scores will be determined by the number of questions for which you select or provide the best answer. Questions for which you mark no answer or more or fewer than the requested number of answers 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 Reasoning and Quantitative Reasoning measures of the paper-based test, it is best to answer every question.

Work as rapidly as you can without being careless. 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 go through a section rapidly at first, stopping only to answer those questions you can do so with certainty. Then go back and answer the questions that require greater thought, concluding with the difficult questions if you have time.

**Note:** During the actual administration of the revised 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 in the test book.

### **Breaks**

There is a 10-minute break following the second Analytical Writing section.

## **Scoring and Score Reporting**

### **Analytical Writing Measure**

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

Otherwise, the two scores on each essay are averaged. The final scores on the two essays are then averaged and rounded up to the nearest half-point interval. A single score is reported for the Analytical Writing measure.

The primary emphasis in scoring the Analytical Writing measure is on your critical thinking and analytical writing skills. Scoring guides for the Issue and Argument prompts are included in this publication in Appendix A on pages 92–95 and available at [www.ets.org/gre/revised/scoreguides](http://www.ets.org/gre/revised/scoreguides).

### **Independent Intellectual Activity**

During the scoring process for the GRE revised General Test, your essay responses on the Analytical Writing measure will be reviewed by ETS essay-similarity-detection software and by experienced essay readers. In light of the high value placed on independent intellectual activity within graduate schools and universities, ETS reserves the right to cancel test scores of any test taker when an essay response includes any of the following:

- text that is unusually similar to that found in one or more other GRE essay responses
- quoting or paraphrasing, without attribution, language that appears 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 submitted as work of the test taker that appear to have been borrowed in whole or in part from elsewhere or prepared by another person

When one or more of the above circumstances occurs, ETS may conclude, in its professional judgment, that the essay response does not reflect the independent writing skills that this test seeks to measure.

When ETS reaches that conclusion, it cancels the Analytical Writing score; because Analytical Writing scores are an integral part of the GRE General Test scores, those scores are canceled as well.

### Verbal Reasoning and Quantitative Reasoning Measures

Scoring of the Verbal Reasoning and Quantitative Reasoning measures is essentially a two-step process. First a raw score is computed for each measure. The raw score for each measure is the number of questions answered correctly in the two sections for that measure.

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

### Score Reporting

The scores for the GRE revised General Test include:

- a Verbal Reasoning score reported on a new 130–170 score scale, in one-point increments
- a Quantitative Reasoning score reported on a new 130–170 score scale, in one-point increments
- an Analytical Writing score reported on a 0–6 score scale, in half-point increments

If no questions are answered for a specific measure (e.g., Verbal Reasoning), then you will receive a No Score (NS) for that measure.

Descriptions of the analytical writing abilities characteristic of particular score levels are available in Appendix A on page 96.

### Score-Reporting Timeframes

Scores on the paper-based GRE revised General Test are reported approximately six weeks after the test date. For specific information on score reporting dates for paper-based administrations, visit [www.ets.org/gre/revised/score/dates](http://www.ets.org/gre/revised/score/dates).

Score reporting is cumulative. Scores are reportable for five testing years following the testing year in which you test. All scores earned during this time will be reported to the institutions you designate.

## Introduction to the Analytical Writing Measure

The Analytical Writing measure tests your critical thinking and analytical writing skills. It assesses your ability to articulate and support complex ideas, construct and evaluate arguments, and sustain a focused and coherent discussion. It does not assess specific content knowledge.

The Analytical Writing measure consists of two separately timed analytical writing tasks:

- a 30-minute “Analyze an Issue” task
- a 30-minute “Analyze an Argument” task

The Issue task presents an opinion on an issue of general interest followed by specific instructions on how to respond to that issue. You are required to evaluate the issue, consider its complexities and develop an argument with reasons and examples to support your views.

The Argument task requires you to evaluate a given argument according to specific instructions. You will need to consider the logical soundness of the argument rather than 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 an issue, and the other requires you to evaluate someone else’s argument by assessing its claims and evaluating the evidence it provides.

### Analyze an Issue Task

The Analyze 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 Issue topic makes a claim 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. Before beginning your written response, be sure to read the issue and the instructions that follow the Issue statement. Think about the issue from several points of view, considering the complexity of ideas associated with those views. Then, make notes about the position you want to develop and list the main reasons and examples you could use to support that position.

It is important that you address the central issue according to the specific instructions. Each Issue Topic is accompanied by one of the following sets of instructions:

- Write a response in which you discuss the extent to which you agree or disagree with the statement and explain your reasoning for the position you take. In developing and supporting your position, you should consider ways in which the statement might or might not hold true and explain how these considerations shape your position.
- Write a response in which you discuss the extent to which you agree or disagree with the recommendation and explain your reasoning for the position you take. In developing and supporting your position, describe specific circumstances in which adopting the recommendation would or would not be advantageous and explain how these examples shape your position.
- Write a response in which you discuss the extent to which you agree or disagree with the claim. In developing and supporting your position, be sure to address the most compelling reasons and/or examples that could be used to challenge your position.
- Write a response in which you discuss which view more closely aligns with your own position and explain your reasoning for the position you take. In developing and supporting your position, you should address both of the views presented.
- Write a response in which you discuss the extent to which you agree or disagree with the claim and the reason on which that claim is based.
- Write a response in which you discuss your views on the policy and explain your reasoning for the position you take. In developing and supporting your position, you should consider the possible consequences of implementing the policy and explain how these consequences shape your position.

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

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

The Analyze an 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 evaluation of an issue and then effectively communicate that argument in writing to an academic audience. Your audience consists of GRE readers who are carefully trained to apply the scoring criteria identified in the scoring guide for the Analyze an Issue task in Appendix A on pages 92–93.

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 reader commentary. 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 reader commentary discusses specific aspects of evaluation 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

Since the Issue task is meant to assess the persuasive writing skills 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 and argumentation 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 respond to the specific instructions and use reasons, evidence and examples to support your position on an issue.

Suppose, for instance, that an Issue topic asks you to consider a policy that would require government financial support for art museums and the implications of implementing the policy. 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 government funding would make access to museums available to everyone. On the other hand, if your position is that government should not support museums, you might point out that art museums are not as deserving of limited governmental funding as are other, more socially important institutions, which would suffer if the policy were implemented. 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 as 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 30-minute time limit; others prefer to take a “timed test” first and practice within the time limit. Regardless of which approach you take, you should first review the task directions and then follow these steps:

- Carefully read the claim and the specific instructions and make sure you understand them; if they seem unclear, discuss them with a friend or teacher.

- Think about the claim and instructions 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.
- 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. The most successful responses will explore the complexity of the claim and follow the specific task instructions. As you prepare for the Issue task, you might find it helpful to ask yourself the following questions:

- What, precisely, is the central issue?
- What precisely are the instructions asking me to do?
- Do I agree with all or 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 perspectives 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 notes about how you will support it. 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 them within the 30-minute time limit so that you have a good idea of how to use your time in the actual test.

It would probably be helpful to get some feedback on your response from an instructor who teaches critical thinking or writing or to trade essays on the same topic with other students and discuss one another's responses in relation to the scoring guide. Try to determine how each essay meets or misses the criteria for each score point in the guide. Comparing your own response to the scoring guide will help you see how and where to improve.

### The Form of Your Response

You are free to organize and develop your response in any way you think will enable you to effectively communicate your ideas about the issue. Your response may 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 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; e.g., 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 the cogency of your ideas about the issue and the clarity and skill with which you communicate those ideas to academic readers.

### Sample Issue Task

Following is a sample Issue task of the sort that you might see on the test:

As people rely more and more on technology to solve problems, the ability of humans to think for themselves will surely deteriorate.

Discuss the extent to which you agree or disagree with the statement and explain your reasoning for the position you take. In developing and supporting your position, you should consider ways in which the statement might or might not hold true and explain how these considerations shape your position.

### Strategies for This Topic

In this task, you are asked to discuss the extent to which you agree or disagree with the statement. Thus, responses may range from strong agreement or strong disagreement to qualified agreement or qualified disagreement. You are also instructed to explain your reasoning and consider ways in which the statement might or might not hold true. A successful response need not comment on all or any one of the points listed below and may well discuss other reasons or examples not mentioned here in support of the position taken.

Although this topic is accessible to respondents of all levels of ability, for your response to receive a top score, it is particularly important that you remain focused on the task and provide clearly relevant examples and/or reasons to support the point of view you are expressing. Lower level responses may be long and full of examples of modern technology, but those examples may not be clearly related to a particular position. For example, a respondent who strongly disagrees with the statement may choose to use computer technology as proof that thinking ability is not deteriorating. However, the mere existence of computer technology does not adequately prove this point; e.g., perhaps the ease of computer use inhibits our thinking ability. To receive a higher level score, the respondent should explain in what ways computer technology may call for or require thinking ability.

This topic could elicit a wide variety of approaches, especially considering the different possible interpretations of the phrase "the ability of humans to think for themselves." Although most respondents may take it to mean problem solving, others could

interpret it as emotional and social intelligence; i.e., the ability to communicate/connect with others. With any approach, it is possible to discuss examples such as calculators, word processing tools such as spell/grammar check, tax preparation software, Internet research and a variety of other common household and business technologies.

You may agree with the topic and argue that:

- reliance on technology leads to dependency; we come to rely on problem-solving technologies to such a degree that when they fail we are in worse shape than if we didn't have them
- everyday technologies such as calculators and cash registers have decreased our ability to perform simple calculations, a “use it or lose it” approach to thinking ability

Or you may take issue with the topic and argue that technology facilitates and improves our thinking skills, arguing that:

- developing, implementing and using technology requires problem solving
- technology frees us from mundane problem solving (e.g., calculations) and allows us to engage in more complex thinking
- technology provides access to information otherwise unavailable
- technology connects people at a distance and allows them to share ideas
- technology is dependent on the human ability to think and make choices (every implementation of and advance in technology is driven by human intelligence and decision making)

On the other hand, you could decide to explore the middle ground in the debate and point out that while technology may diminish some mental skill sets, it enables other (perhaps more important) types of thinking to thrive. Such a response might distinguish between complex problem solving and simple “data maintenance” (i.e., performing calculations and organizing information).

Other approaches could involve taking a historical, philosophical or sociological stance, or, with equal effectiveness, using personal experience to illustrate a position. One could argue that the value or detriment of relying on technology is determined by the individual (or society) using it or that only those who develop technology (i.e., technical specialists) are maintaining their problem-solving skills, while the rest of us are losing them.

Again, it is important for you to avoid overly general examples or lists of examples without expansion. It is also essential to do more than paraphrase the prompt. Please keep in mind that what counts is the ability to clearly express a particular point of view in relation to the issue and specific task instructions and to support that position with relevant reasons and/or examples.

To view scored sample essay responses and reader commentary for this sample topic, see Appendix B on pages 97–101.

## Analyze an Argument Task

The Analyze an Argument task assesses your ability to understand, analyze and evaluate arguments according to specific instructions and to convey your evaluation clearly in your 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 and instructions carefully. You might want to read the argument more than once and 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*; i.e., you should recognize the separate, sometimes implicit steps in the thinking process and consider whether the movement from each step to the next is logically sound. In tracing this line, look for transition words and phrases that suggest 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.

- You are not being asked to agree or disagree with 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.

It is important that you address the argument according to the specific instructions. Each task is accompanied by one of the following sets of instructions:

- Write a response in which you discuss what specific evidence is needed to evaluate the argument and explain how the evidence would weaken or strengthen the argument.
- Write a response in which you examine the stated and/or unstated assumptions of the argument. Be sure to explain how the argument depends on these assumptions, and what the implications are for the argument if the assumptions prove unwarranted.
- Write a response in which you discuss what questions would need to be answered in order to decide whether the recommendation and the argument on which it is based are reasonable. Be sure to explain how the answers to these questions would help to evaluate the recommendation.
- Write a response in which you discuss what questions would need to be answered in order to decide whether the advice and the argument on which it is based are reasonable. Be sure to explain how the answers to these questions would help to evaluate the advice.
- Write a response in which you discuss what questions would need to be answered in order to decide whether the recommendation is likely to have the predicted result. Be sure to explain how the answers to these questions would help to evaluate the recommendation.
- Write a response in which you discuss what questions would need to be answered in order to decide whether the prediction and the argument on which it is based are reasonable. Be sure to explain how the answers to these questions would help to evaluate the prediction.

- Write a response in which you discuss what questions would need to be addressed in order to decide whether the conclusion and the argument on which it is based are reasonable. Be sure to explain how the answers to the questions would help to evaluate the conclusion.
- Write a response in which you discuss one or more alternative explanations that could rival the proposed explanation and explain how your explanation(s) can plausibly account for the facts presented in the argument.

Analyze an Argument is a critical thinking task requiring a written response. Consequently, the analytical skills displayed in your evaluation carry great weight in determining your score; however, the clarity with which you convey ideas is also important to your overall score.

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

The purpose of the task is to see how well equipped you are to insightfully evaluate an argument written by someone else and to effectively communicate your evaluation in writing to an academic audience. Your audience consists of GRE readers carefully trained to apply the scoring criteria identified in the scoring guide for the Analyze an Argument task on pages 94–95.

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 reader commentary. 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 evaluation. The reader commentary discusses specific aspects of analytical writing, such as cogency of ideas, development and support, organization, syntactic variety and facility with language. For each response, the commentary points out aspects that are particularly effective and insightful as well as any that detract from the overall effectiveness of the essay.

### **Preparing for the Argument Task**

Since the Argument task is meant to assess analytical writing and informal reasoning skills that you have developed throughout your education, it has been designed neither to require any specific course of study nor 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 specific methods of analysis or technical terms.

For instance, in one topic an elementary school principal might conclude that 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 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 and with certain key concepts, including the following:

- alternative explanation—a competing version of what might have caused the events in question that 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
- 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*
- evaluation—an assessment of the quality of evidence and reasons in an argument and of the overall merit of an *argument*

An excellent way to prepare for the Analyze an Argument task 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 evaluate the argument. Regardless of the approach you take, consider the following steps:

- Carefully read the argument and the specific instructions—you might want to read them more than once.
- Identify as many of the argument's claims, conclusions and underlying assumptions as possible and evaluate their quality.
- Think of as many alternative explanations and counterexamples as you can.
- Think of what specific additional evidence might weaken or lend support to the claims.
- Ask yourself what changes in the argument would make the reasoning more sound.

Write down each of these thoughts. When you've gone as far as you can with your evaluation, look over the notes and put them in a good order for discussion (perhaps by numbering them). Then write an evaluation according to the specific instructions by fully developing each point that is relevant to those instructions. Even if you choose not to write a full essay response, you should find it helpful to practice evaluating 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.

You might want to get feedback on your response(s) from a writing instructor, philosophy teacher or someone who emphasizes critical thinking in his or her course. It can also be informative to trade papers on the same topic with fellow students and discuss each other's responses in terms of the scoring guide. Focus not so much on the "right scores" as on seeing how the responses meet or miss the performance standards for each score point and what you need to do 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 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?" In this case, there are other possible explanations; e.g., 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.

Any one of these could explain the difference in attendance and 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 five members and now there are 10.

Remember that any numbers, percentages or statistics in Argument tasks 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 response in any way you think will effectively communicate your evaluation 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 GRE readers are trained, they review hundreds of Argument responses that, although highly diverse in content and form, display similar levels of critical thinking and analytical writing.

For example, readers will see 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 evaluation. The readers know that a writer can earn a high score by developing several points in an evaluation or by identifying a central feature in the argument and developing that evaluation 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 responses.

You should make choices about format and organization that you think support and enhance the overall effectiveness of your evaluation. This means using as many or as few paragraphs as you consider appropriate for your response; e.g., create a new paragraph when your discussion shifts to a new point of evaluation. You might want to organize your evaluation around the structure of the argument itself, discussing it line by line. Or you might want to first point out a central questionable assumption and then move on to discuss related weaknesses in the argument's line of reasoning.

Similarly, you might want to use examples to help illustrate an important point in your evaluation or move your discussion forward. However, remember that it is your critical thinking and analytical writing that are being assessed, not your ability to come up with examples. What matters is not the form your response takes, but how insightfully you evaluate the argument and how articulately you communicate your evaluation to academic readers within the context of the task.

## Sample Argument Task

Following is a sample Argument task that you might see on the test:

In surveys Mason City residents rank water sports (swimming, boating and fishing) among their favorite recreational activities. The Mason River flowing through the city is rarely used for these pursuits, however, and the city park department devotes little of its budget to maintaining riverside recreational facilities. For years there have been complaints from residents about the quality of the river's water and the river's smell. In response, the state has recently announced plans to clean up Mason River. Use of the river for water sports is therefore sure to increase. The city government should for that reason devote more money in this year's budget to riverside recreational facilities.

Write a response in which you examine the stated and/or unstated assumptions of the argument. Be sure to explain how the argument depends on these assumptions and what the implications are if the assumptions prove unwarranted.

### Strategies for This Topic

This argument cites a survey to support the prediction that the use of the Mason River is sure to increase and thus recommends that the city government should devote more money in this year's budget to the riverside recreational facilities.

In developing your evaluation, you are asked to examine the argument's stated and/or unstated assumptions and discuss what the implications are if the assumptions prove unwarranted. A successful response must discuss both the argument's assumptions AND the implications of these assumptions for the argument. A response that does not address both parts of the task is unlikely to receive an upper-half score.

Though responses may well raise other points, some assumptions of the argument, and some ways in which the argument depends on those assumptions, include:

- The assumption that people who rank water sports "among their favorite recreational activities" are actually likely to participate in them. (It is possible that they just like to watch them.) This assumption underlies the claim that use of the river for water sports is sure to increase

after the state cleans up the Mason River and that the city should for that reason devote more money to riverside recreational facilities.

- The assumption that what residents say in surveys can be taken at face value. (It is possible that survey results exaggerate the interest in water sports.) This assumption underlies the claim that use of the river for water sports is sure to increase after the state cleans up the Mason River and that the city should for that reason devote more money to riverside recreational facilities.
- The assumption that Mason City residents would actually want to do water sports in the Mason River. (As recreational activities, it is possible that water sports are regarded as pursuits for vacations and weekends away from the city.) This assumption underlies the claim that use of the river for water sports is sure to increase after the state cleans up the Mason River and that the city should for that reason devote more money to riverside recreational facilities.
- The assumption that the park department's devoting little of its budget to maintaining riverside recreational facilities means that these facilities are inadequately maintained. This assumption underlies the claim that the city should devote more money in this year's budget to riverside recreational facilities. If current facilities are adequately maintained, then increased funding might not be needed even if recreational use of the river does increase.
- The assumption that the riverside recreational facilities are facilities designed for people who participate in water sports and not some other recreational pursuit. This assumption underlies the claim that the city should devote more money in this year's budget to riverside recreational facilities.
- The assumption that the dirtiness of the river is the cause of its being little used and that cleaning up the river will be sufficient to increase recreational use of the river. (Residents might have complained about the water quality and smell even if they had no desire to boat, swim or fish in the river.) This assumption underlies the claim that the state's plan to clean up the river will result in increased use of the river for water sports.

- The assumption that the complaints about the river are numerous and significant. This assumption motivates the state’s plan to clean up the river and underlies the claim that use of the river for water sports is sure to increase. (Perhaps the complaints are coming from a very small minority, in which case cleaning the river might be a misuse of state funds.)
- The assumption that the state’s clean-up will occur soon enough to require adjustments to this year’s budget. This assumption underlies the claim that the city should devote more money in this year’s budget to riverside recreational facilities.
- The assumption that the clean-up, when it happens, will benefit those parts of the river accessible from the city’s facilities. This assumption underlies the claim that the city should devote more money to riverside recreational facilities.
- The assumption that the city government ought to devote more attention to maintaining a recreational facility if demand for that facility increases.
- The assumption that the city should finance the new project and not some other agency or group (public or private).

Should any of the above assumptions prove unwarranted, the implications are:

- that the logic of the argument falls apart/is invalid/is unsound
- that the state and city are spending their funds unnecessarily

To view scored sample essay responses and reader commentary on this sample topic, see Appendix B on pages 97–105.

## Introduction to the Verbal Reasoning Measure

The Verbal Reasoning measure assesses your ability to analyze and evaluate written material and synthesize information obtained from it, analyze relationships among component parts of sentences and recognize relationships among words and concepts.

Verbal Reasoning questions appear in several formats, each of which is discussed in detail below. About half of the measure requires you to read passages and answer questions on those passages.

The other half requires you to read, interpret and complete existing sentences, groups of sentences or paragraphs.

### Verbal Reasoning Question Types

The Verbal Reasoning measure contains three types of questions:

- Reading Comprehension questions
- Text Completion questions
- Sentence Equivalence questions

### Reading Comprehension Questions

Reading Comprehension questions are designed to test a wide range of abilities that are required in order to read and understand the kinds of prose commonly encountered in graduate school. Those abilities include:

- understanding the meaning of individual words and sentences
- understanding the meaning of paragraphs and larger bodies of text
- distinguishing between minor and major points
- summarizing a passage
- drawing conclusions from the information provided
- reasoning from incomplete data to infer missing information
- understanding the structure of a text in terms of how the parts relate to one another
- identifying the author’s assumptions and perspective
- analyzing a text and reaching conclusions about it
- identifying strengths and weaknesses of a position
- developing and considering alternative explanations

As this list implies, reading and understanding a piece of text requires far more than a passive understanding of the words and sentences it contains; it requires active engagement with the text, asking questions, formulating and evaluating hypotheses and reflecting on the relationship of the particular text to other texts and information.

Each Reading Comprehension question is based on a passage that may range in length from one paragraph to several paragraphs. The test contains 12 to 15 passages, the majority of which are one paragraph in length and only one or two of which are several

paragraphs long. Passages are drawn from the physical sciences, biological sciences, social sciences, arts and humanities and everyday topics and are based on material found in books and periodicals, both academic and nonacademic.

Typically, about half of the questions on the test will be based on passages, and the number of questions based on a given passage can range from one to six. Questions can cover any of the topics listed above, from the meaning of a particular word to assessing evidence that might support or weaken points made in the passage. Many, but not all, of the questions are standard multiple-choice questions, in which you are required to select a single answer choice, and others ask you to select multiple answer choices.

### General Advice

- Reading passages are drawn from many different disciplines and sources, so you may encounter material with which you are not familiar. Do not be discouraged if you encounter unfamiliar material; all the questions can be answered on the basis of the information provided in the passage. However, if you encounter a passage that seems particularly hard or unfamiliar, you may want to save it for last.
- Read and analyze the passage carefully before trying to answer any of the questions, and pay attention to clues that help you understand less explicit aspects of the passage.
  - Try to distinguish main ideas from supporting ideas or evidence.
  - Try to distinguish ideas that the author is advancing from those he or she is merely reporting.
  - Try to distinguish ideas that the author is strongly committed to from those he or she advances as hypothetical or speculative.
  - Try to identify the main transitions from one idea to the next.
  - Try to identify the relationship between different ideas. For example:
    - Are they contrasting? Are they consistent?
    - Does one support the other?
    - Does one spell the other out in greater detail?
    - Does one apply the other to a particular circumstance?

- Read each question carefully and be certain that you understand exactly what is being asked.
- Answer each question on the basis of the information provided in the passage and do not rely on outside knowledge. Sometimes your own views or opinions may conflict with those presented in a passage; if this happens, take special care to work within the context provided by the passage. You should not expect to agree with everything you encounter in the reading passages.

### Reading Comprehension Multiple-choice Questions—Select One Answer Choice

These questions are standard multiple-choice questions with five answer choices, of which you must select one.

#### Tips for Answering

- Read *all* the answer choices before making your selection, even if you think you know the correct answer in advance.
- The correct answer choice is the one that most accurately and most completely answers the question posed; be careful not to be misled by choices that are only partially true or only partially answer the question. Also, be careful not to pick a choice simply because it is a true statement.
- When the question asks about the meaning of a word in the passage, be sure the answer choice you select correctly represents the way the word is being used in the passage. Many words have different meanings when used in different contexts.

### Reading Comprehension Multiple-choice Questions—Select One or More Answer Choices

These questions provide three answer choices and ask you to select all that are correct; one, two or all three of the answer choices may be correct. To gain credit for these questions, you must select all the correct choices, and only those; there is no credit for partially correct answers.



## Tips for Answering

- Evaluate each answer choice separately on its own merits; when evaluating one choice, do not take the others into account.
- A correct answer choice accurately and completely answers the question posed; be careful not to be misled by choices that are only partially true or only partially answer the question. Also, be careful not to pick a choice simply because it is a true statement.
- Do not be disturbed if you think all three answer choices are correct, since questions of this type can have up to three correct answer choices.

**Important Note:** In some test preparation materials, you may see references to a third type of Reading Comprehension question, “Select in Passage.” Because these questions depend on the use of the computer, they do not appear on the paper-based test. Similar multiple-choice questions are used in their place.

## Sample Questions

Questions 1 and 2 are based on this passage

Reviving the practice of using elements of popular music in classical composition, an approach that had been in hibernation in the United States during the 1960s, composer Philip Glass (born 1937) embraced the ethos of popular music without imitating it. Glass based two symphonies on music by rock musicians David Bowie and Brian Eno, but the symphonies’ sound is distinctively his. Popular elements do not appear out of place in Glass’s classical music, which from its early days has shared certain harmonies and rhythms with rock music. Yet this use of popular elements has not made Glass a composer of popular music. His music is not a version of popular music packaged to attract classical listeners; it is high art for listeners steeped in rock rather than the classics.

**Directions: Select only one answer choice.**

1. The passage addresses which of the following issues related to Glass’s use of popular elements in his classical compositions?
  - Ⓐ How it is regarded by listeners who prefer rock to the classics
  - Ⓑ How it has affected the commercial success of Glass’s music
  - Ⓒ Whether it has contributed to a revival of interest among other composers in using popular elements in their compositions
  - Ⓓ Whether it has had a detrimental effect on Glass’s reputation as a composer of classical music
  - Ⓔ Whether it has caused certain of Glass’s works to be derivative in quality

**Directions: Consider each of the choices separately and select all that apply.**

2. The passage suggests that Glass’s work displays which of the following qualities?
  - Ⓐ A return to the use of popular music in classical compositions
  - Ⓑ An attempt to elevate rock music to an artistic status more closely approximating that of classical music
  - Ⓒ A long-standing tendency to incorporate elements from two apparently disparate musical styles

## Explanation

The passage describes in general terms how Philip Glass uses popular music in his classical compositions and explores how Glass can do this without being imitative. Note that there are no opposing views discussed; the author is simply presenting his or her views.

**Question 1:** One of the important points that the passage makes is that when Glass uses popular elements in his music, the result is very much his own creation (it is “distinctively his”). In other words, the music is far from being derivative. Thus one issue that the passage addresses is the one referred to in answer Choice E—it answers it in the negative. The passage does not discuss the impact of Glass’s use of popular elements on listeners, on the commercial success of his music, on other composers or on Glass’s reputation, so none of Choices A through D is correct.

**The correct answer is Choice E.**

**Question 2:** To answer this question, it is important to assess each answer choice independently. Since the passage says that Glass revived the use of popular music in classical compositions, answer Choice A is clearly correct. On the other hand, the passage also denies that Glass composes popular music or packages it in a way to elevate its status, so answer Choice B is incorrect. Finally, since Glass's style has always mixed elements of rock with classical elements, answer Choice C is correct.

**Thus the correct answer is Choice A and Choice C.**

## Text Completion Questions

As mentioned earlier, skilled readers do not simply absorb the information presented on the page; instead, they maintain a constant attitude of interpretation and evaluation, reasoning from what they have read so far to create a picture of the whole and revising that picture as they go. Text Completion questions test this ability by omitting crucial words from short passages and asking the test taker to use the remaining information in the passage as a basis for selecting words or short phrases to fill the blanks and create a coherent, meaningful whole.

### Question Structure

- Passage composed of one to five sentences
- One to three blanks
- Three answer choices per blank (five answer choices in the case of a single blank)
- The answer choices for different blanks function independently; i.e., selecting one choice for one blank does not affect what choices you can select for another blank
- Single correct answer, consisting of one choice for each blank; no credit for partially correct answers

## Tips for Answering

Do not merely try to consider each possible combination of answers; doing so will take too long and is open to error. Instead, try to analyze the passage in the following way:

- Read through the passage to get an overall sense of it.
- Identify words or phrases that seem particularly significant, either because they emphasize the structure of the passage (words like *although* or *moreover*) or because they are central to understanding what the passage is about.
- Try to fill in the blanks with words or phrases that seem to complete the sentence, then see if similar words are offered among the answer choices.
- Do not assume that the first blank is the one that should be filled first; perhaps one of the other blanks is easier to fill first. Select your choice for that blank, and then see whether you can complete another blank. If none of the choices for the other blank seem to make sense, go back and reconsider your first selection.
- When you have made your selection for each blank, check to make sure the passage is logically, grammatically and stylistically coherent.

## Sample Questions

**Directions:** For each blank, select one entry from the corresponding column of choices. Fill all blanks in the way that best completes the text.

1. It is refreshing to read a book about our planet by an author who does not allow facts to be (i) \_\_\_\_\_ by politics: well aware of the political disputes about the effects of human activities on climate and biodiversity, this author does not permit them to (ii) \_\_\_\_\_ his comprehensive description of what we know about our biosphere. He emphasizes the enormous gaps in our knowledge, the sparseness of our observations, and the (iii) \_\_\_\_\_, calling attention to the many aspects of planetary evolution that must be better understood before we can accurately diagnose the condition of our planet.

Blank (i)

- (A) overshadowed
- (B) invalidated
- (C) illuminated

Blank (ii)

- (D) enhance
- (E) obscure
- (F) underscore

Blank (iii)

- (G) plausibility of our hypotheses
- (H) certainty of our entitlement
- (I) superficiality of our theories

### Explanation

The overall tone of the passage is clearly complimentary. To understand what the author of the book is being complimented on, it is useful to focus on the second blank. Here, we must determine what word would indicate something that the author is praised for not permitting. The only answer choice that fits the case is “obscure,” since enhancing and underscoring are generally good things to do, not things one should refrain from doing. Choosing “obscure” clarifies the choice for the first blank; the only choice that fits well with “obscure” is “overshadowed.” Notice that trying to fill blank (i) without filling blank (ii) first is hard—each choice has at least some initial plausibility. Since the third blank requires a phrase that matches “enormous gaps” and “sparseness of our observations,” the best choice is “superficiality of our theories.”

**Thus the correct answer is Choice A (overshadowed), Choice E (obscure) and Choice I (superficiality of our theories).**

2. Vain and prone to violence, Caravaggio could not handle success: the more his (i) \_\_\_\_\_ as an artist increased, the more (ii) \_\_\_\_\_ his life became.

Blank (i)

- (A) temperance
- (B) notoriety
- (C) eminence

Blank (ii)

- (D) tumultuous
- (E) providential
- (F) dispassionate

### Explanation

In this sentence, what follows the colon must explain or spell out what precedes it. So, roughly, what the second part must say is that as Caravaggio became more successful, his life got more out of control. When one looks for words to fill the blanks, it becomes clear that “tumultuous” is the best fit for blank (ii), since neither of the other choices suggests being out of control. And for blank (i), the best choice is “eminence,” since to increase in eminence is a consequence of becoming more successful. It is true that Caravaggio might also increase in notoriety, but an increase in notoriety as an artist is not as clear a sign of success as an increase in eminence.

**Thus the correct answer is Choice C (eminence) and Choice D (tumultuous).**

3. In parts of the Arctic, the land grades into the landfast ice so \_\_\_\_\_ that you can walk off the coast and not know you are over the hidden sea.

- |                   |
|-------------------|
| (A) permanently   |
| (B) imperceptibly |
| (C) irregularly   |
| (D) precariously  |
| (E) relentlessly  |

### Explanation

The word that fills the blank has to characterize how the land grades into the ice in a way that explains how you can walk off the coast and over the sea without knowing it. The word that does that is “imperceptibly;” if the land grades imperceptibly into the ice, you might well not know that you had left the land. Describing the shift from land to ice as permanent, irregular, precarious or relentless would not help to explain how you would fail to know.

Thus the correct answer is Choice B (imperceptibly).

## Sentence Equivalence Questions

Like Text Completion questions, Sentence Equivalence questions test the ability to reach a conclusion about how a passage should be completed on the basis of partial information, but to a greater extent they focus on the meaning of the completed whole. Sentence Equivalence questions consist of a single sentence with just one blank, and they ask you to find two answer choices that lead to a complete, coherent sentence while producing sentences that mean the same thing.

### Question Structure

- Consists of a single sentence, one blank, and six answer choices.
- Requires you to select **two** of the answer choices; no credit for partially correct answers.

### Tips for Answering

Do not simply look among the answer choices for two words that mean the same thing. This can be misleading for two reasons. First, the choices may contain pairs of words that mean the same thing but do not fit coherently into the sentence. Second, the pair of words that do constitute the correct answer may not mean exactly the same thing, since all that matters is that the resultant sentences mean the same thing.

- Read the sentence to get an overall sense of it.
- Identify words or phrases that seem particularly significant, either because they emphasize the structure of the sentence (words like *although* or *moreover*) or because they are central to understanding what the sentence is about.
- Try to fill in the blank with a word that seems appropriate to you and then see if two similar words are offered among the answer choices. If you find some word that is similar to what you are expecting but cannot find a second one, do not become fixated on your interpretation; instead, see whether there are other words among the choices that can be used to fill the blank coherently.
- When you have selected your pair of answer choices, check to make sure that each one produces a sentence that is logically, grammatically and stylistically coherent, and that the two sentences mean the same thing.

### Sample Question

**Directions:** Select the two answer choices that, when used to complete the sentence, fit the meaning of the sentence as a whole and produce completed sentences that are alike in meaning.

1. Although it does contain some pioneering ideas, one would hardly characterize the work as \_\_\_\_\_.
- (A) orthodox
  - (B) eccentric
  - (C) original
  - (D) trifling
  - (E) conventional
  - (F) innovative

### Explanation

The word “Although” is a crucial signpost here. The work contains some pioneering ideas, but apparently it is not overall a pioneering work. Thus the two words that could fill the blank appropriately are “original” and “innovative.” Note that “orthodox” and “conventional” are two words that are very similar in meaning, but neither one completes the sentence sensibly.

Thus the correct answer is Choice C (original) and Choice F (innovative).

# Introduction to the Quantitative Reasoning Measure

The Quantitative Reasoning measure assesses your:

- basic mathematical skills
- understanding of elementary mathematical concepts
- ability to reason quantitatively and to model and solve problems with quantitative methods

Some of the questions in the measure are posed in real-life settings, while others are posed in purely mathematical settings. The skills, concepts, and abilities are tested in the four content areas below.

- **Arithmetic** topics include properties and types of integers, such as divisibility, factorization, prime numbers, remainders, and odd and even integers; arithmetic operations, exponents, and radicals; and concepts such as estimation, percent, ratio, rate, absolute value, the number line, decimal representation and sequences of numbers.
- **Algebra** topics include operations with exponents; factoring and simplifying algebraic expressions; relations, functions, equations and inequalities; solving linear and quadratic equations and inequalities; solving simultaneous equations and inequalities; setting up equations to solve word problems; and coordinate geometry, including graphs of functions, equations, and inequalities, intercepts, and slopes of lines.
- **Geometry** topics include parallel and perpendicular lines, circles, triangles—including isosceles, equilateral, and  $30^\circ$  -  $60^\circ$  -  $90^\circ$  triangles—quadrilaterals, other polygons, congruent and similar figures, three-dimensional figures, area, perimeter, volume, the Pythagorean theorem and angle measurement in degrees. The ability to construct proofs is not tested.
- **Data analysis** topics include basic descriptive statistics, such as mean, median, mode, range, standard deviation, interquartile range, quartiles, and percentiles; interpretation of data in tables and graphs, such as line graphs, bar graphs, circle graphs, boxplots, scatterplots and frequency distributions; elementary probability, such as probabilities of compound events and independent events; random variables and prob-

ability distributions, including normal distributions; and counting methods, such as combinations, permutations, and Venn diagrams. These topics are typically taught in high school algebra courses or introductory statistics courses. Inferential statistics is not tested.

The content in these areas includes high school mathematics and statistics at a level that is generally no higher than a second course in algebra; it does not include trigonometry, calculus, or other higher-level mathematics. The publication *Math Review for the GRE revised General Test*, which is available at [www.ets.org/gre/revised/prepare](http://www.ets.org/gre/revised/prepare), provides detailed information about the content of the Quantitative Reasoning measure.

The mathematical symbols, terminology, and conventions used in the Quantitative Reasoning measure are those that are standard at the high school level. For example, the positive direction of a number line is to the right, distances are nonnegative, and prime numbers are greater than 1. Whenever nonstandard notation is used in a question, it is explicitly introduced in the question.

In addition to conventions, there are some assumptions about numbers and geometric figures that are used in the Quantitative Reasoning measure. Two of these assumptions are (1) all numbers used are real numbers and (2) geometric figures are not necessarily drawn to scale. More about conventions and assumptions appears in the publication *Mathematical Conventions for the GRE revised General Test*, which is available at [www.ets.org/gre/revised/prepare](http://www.ets.org/gre/revised/prepare).

## Quantitative Reasoning Question Types

The Quantitative Reasoning measure has four types of questions:

- Quantitative Comparison questions
- Multiple-choice questions—Select One Answer Choice
- Multiple-choice questions—Select One or More Answer Choices
- Numeric Entry questions

Each question appears either independently as a discrete question or as part of a set of questions called a Data Interpretation set. All of the questions in a Data Interpretation set are based on the same data presented in tables, graphs, or other displays of data.

For the paper-based test, you are allowed to use a basic handheld calculator on the Quantitative Reasoning measure. The calculator will be provided to you at the test site, and you may keep it when you are finished with the test. Information about using the calculator to help you answer questions appears later.

## Quantitative Comparison Questions

Questions of this type ask you to compare two quantities—Quantity A and Quantity B—and then determine which of the following statements describes the comparison.

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

### Tips for Answering

- **Become familiar with the answer choices.** Quantitative Comparison questions always have the same answer choices, so get to know them, especially the last choice, “The relationship cannot be determined from the information given.” Never select this last choice if it is clear that the values of the two quantities can be determined by computation. Also, if you determine that one quantity is greater than the other, make sure you carefully select the corresponding choice so as not to reverse the first two choices.
- **Avoid unnecessary computations.** Don’t waste time performing needless computations in order to compare the two quantities. Simplify, transform, or estimate one or both of the given quantities only as much as is necessary to compare them.
- **Remember that geometric figures are not necessarily drawn to scale.** If any aspect of a given geometric figure is not fully determined, try to redraw the figure, keeping those aspects that are completely determined by the given information fixed but changing the aspects of the figure that are not determined. Examine the results. What variations are possible in the relative lengths of line segments or measures of angles?

- **Plug in numbers.** If one or both of the quantities are algebraic expressions, you can substitute easy numbers for the variables and compare the resulting quantities in your analysis. Consider all kinds of appropriate numbers before you give an answer: e.g., zero, positive and negative numbers, small and large numbers, fractions, and decimals. If you see that Quantity A is greater than Quantity B in one case and Quantity B is greater than Quantity A in another case, choose “The relationship cannot be determined from the information given.”
- **Simplify the comparison.** If both quantities are algebraic or arithmetic expressions and you cannot easily see a relationship between them, you can try to simplify the comparison. Try a step-by-step simplification that is similar to the steps involved when you solve the equation  $5 = 4x + 3$  for  $x$ , or similar to the steps involved when you determine that the inequality  $\frac{3y + 2}{5} < y$  is equivalent to the simpler inequality  $1 < y$ . Begin by setting up a comparison involving the two quantities, as follows:

Quantity A    $\square$    Quantity B

where  $\square$  is a “placeholder” that could represent the relationship greater than ( $>$ ), less than ( $<$ ), or equal to ( $=$ ) or could represent the fact that the relationship cannot be determined from the information given. Then try to simplify the comparison, step-by-step, until you can determine a relationship between simplified quantities. For example, you may conclude after the last step that  $\square$  represents equal to ( $=$ ). Based on this conclusion, you may be able to compare Quantities A and B. To understand this strategy more fully, see sample question 3.

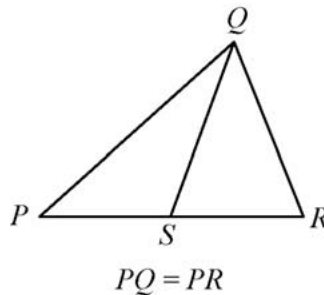
## Sample Questions

Directions: Compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the following four answer choices and fill in the corresponding circle to the right of the question.

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

A symbol that appears more than once in a question has the same meaning throughout the question.

Figure 1



Quantity A

Quantity B

1.  $PS$   $SR$  (A) (B) (C) (D)

### Explanation

From Figure 1, you know that  $PQR$  is a triangle and that point  $S$  is between points  $P$  and  $R$ , so  $PS < PR$  and  $SR < PR$ . You are also given that  $PQ = PR$ . However, this information is not sufficient to compare  $PS$  and  $SR$ . Furthermore, because the figure is not necessarily drawn to scale, you cannot determine the relative sizes of  $PS$  and  $SR$  visually from the figure, though they may appear to be equal. The position of  $S$  can vary along side  $PR$  anywhere between  $P$  and  $R$ . Below are two possible variations of Figure 1, each of which is drawn to be consistent with the information  $PQ = PR$ .

Figure 2

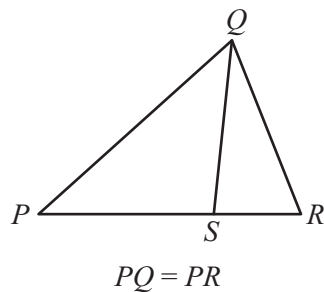
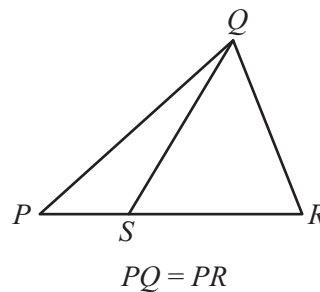


Figure 3



Note that Quantity A is greater in Figure 2 and Quantity B is greater in Figure 3.

Thus, the correct answer is Choice D, the relationship cannot be determined from the information given.

$$y = 2x^2 + 7x - 3$$

	Quantity A	Quantity B	
2.	$x$	$y$	(A) (B) (C) (D)

### Explanation

If  $x = 0$ , then  $y = 2(0^2) + 7(0) - 3 = -3$ , so in this case,  $x > y$ ; but if  $x = 1$ , then  $y = 2(1^2) + 7(1) - 3 = 6$ , so in that case,  $y > x$ .

**Thus, the correct answer is Choice D, the relationship cannot be determined from the information given.**

Note that plugging numbers into expressions *may not* be conclusive. However, it *is* conclusive if you get different results after plugging in different numbers: the conclusion is that the relationship cannot be determined from the information given. It is also conclusive if there are only a small number of possible numbers to plug in and all of them yield the same result, say, that Quantity B is greater.

Now suppose there are an infinite number of possible numbers to plug in. If you plug many of them in and each time the result is, for example, that Quantity A is greater, you still cannot conclude that Quantity A is greater for every possible number that could be plugged in. Further analysis would be necessary and should focus on whether Quantity A is greater for all possible numbers or whether there are numbers for which Quantity A is not greater.

	Quantity A	Quantity B	
3.	$\frac{3y + 2}{5}$	$y$	(A) (B) (C) (D)

### Explanation

Set up the initial comparison:

$$\frac{3y + 2}{5} \quad ? \quad y$$

Then simplify:

Step 1: Multiply both sides by 5 to get  $3y + 2 \quad ? \quad 5y$

Step 2: Subtract  $3y$  from both sides to get  $2 \quad ? \quad 2y$

Step 3: Divide both sides by 2 to get  $1 \quad ? \quad y$

The comparison is now simplified as much as possible. In order to compare 1 and  $y$ , note that you are given the information  $y > 4$  (above Quantities A and B). It follows from  $y > 4$  that  $y > 1$ , or  $1 < y$ , so that in the comparison  $1 \quad ? \quad y$ , the placeholder  $?$  represents *less than* ( $<$ ):  $1 < y$ .

However, the problem asks for a comparison between Quantity A and Quantity B, not a comparison between 1 and  $y$ . To go from the comparison between 1 and  $y$  to a comparison between Quantities A and B, start with the last comparison,  $1 < y$ , and carefully consider each simplification step in reverse order to determine what each comparison implies about the preceding comparison, all the way back to the comparison between Quantities A and B if possible. Since step 3 was “*divide both sides by 2*,” *multiplying* both sides of the comparison  $1 < y$  by 2 implies the preceding comparison  $2 < 2y$ , thus reversing step 3. Each simplification step can be reversed as follows:

- Reverse step 3: *multiply* both sides by 2.
- Reverse step 2: *add*  $3y$  to both sides.
- Reverse step 1: *divide* both sides by 5.



When each step is reversed, the relationship remains *less than* ( $<$ ), so Quantity A is *less than* Quantity B.

**Thus, the correct answer is Choice B, Quantity B is greater.**

While some simplification steps like subtracting 3 from both sides or dividing both sides by 10 are always reversible, it is important to note that some steps, like squaring both sides, may not be reversible.

Also, note that when you simplify an *inequality*, the steps of multiplying or dividing both sides by a negative number change the direction of the inequality; for example, if  $x < y$ , then  $-x > -y$ . So the relationship in the final, simplified inequality may be the *opposite* of the relationship between Quantities A and B. This is another reason to consider the impact of each step carefully.

The strategy of simplifying the comparison works most efficiently when you note that a simplification step is reversible while actually taking the step. Here are some common steps that are always reversible:

- Adding any number or expression to both sides of a comparison
- Subtracting any number or expression from both sides
- Multiplying both sides by any nonzero number or expression
- Dividing both sides by any nonzero number or expression

Remember that if the relationship is an inequality, multiplying or dividing both sides by any *negative* number or expression will yield the opposite inequality. Be aware that some common operations like squaring both sides are generally not reversible and may require further analysis using other information given in the question in order to justify reversing such steps.

## Multiple-choice Questions—Select One Answer Choice

These questions are multiple-choice questions that ask you to select only one answer choice from a list of five choices.

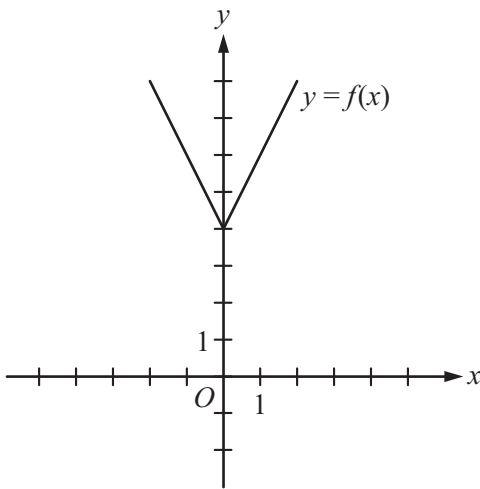
### Tips for Answering

- **Use the fact that the answer is there.** If your answer is not one of the five answer choices given, you should assume that your answer is incorrect and do the following:
  - Reread the question carefully—you may have missed an important detail or misinterpreted some information.
  - Check your computations—you may have made a mistake, such as mis-keying a number on the calculator.
  - Reevaluate your solution method—you may have a flaw in your reasoning.
- **Examine the answer choices.** In some questions you are asked explicitly which of the choices has a certain property. You may have to consider each choice separately or you may be able to see a relationship between the choices that will help you find the answer more quickly. In other questions, it may be helpful to work backward from the choices, say, by substituting the choices in an equation or inequality to see which one works. However, be careful, as that method may take more time than using reasoning.
- **For questions that require approximations, scan the answer choices to see how close an approximation is needed.** In other questions, too, it may be helpful to scan the choices briefly before solving the problem to get a better sense of what the question is asking. If computations are involved in the solution, it may be necessary to carry out all computations exactly and round only your final answer in order to get the required degree of accuracy. In other questions, you may find that estimation is sufficient and will help you avoid spending time on long computations.

## Sample Questions

Directions: Select a single answer choice.

Figure 4

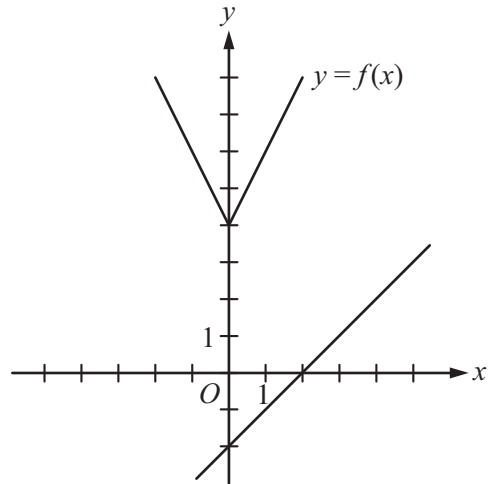


1. The figure above shows the graph of a function  $f$ , defined by  $f(x) = |2x| + 4$  for all numbers  $x$ . For which of the following functions  $g$  defined for all numbers  $x$  does the graph of  $g$  intersect the graph of  $f$ ?
- (A)  $g(x) = x - 2$
  - (B)  $g(x) = x + 3$
  - (C)  $g(x) = 2x - 2$
  - (D)  $g(x) = 2x + 3$
  - (E)  $g(x) = 3x - 2$

### Explanation

You can see that all five answer choices are linear functions whose graphs are lines with various slopes and  $y$ -intercepts. The graph of Choice A is a line with slope 1 and  $y$ -intercept  $-2$ , shown in Figure 5.

Figure 5



It is clear that this line will not intersect the graph of  $f$  to the left of the  $y$ -axis. To the right of the  $y$ -axis, the graph of  $f$  is a line with slope 2, which is greater than slope 1. Consequently, as the value of  $x$  increases, the value of  $y$  increases faster for  $f$  than for  $g$ , and therefore the graphs do not intersect to the right of the  $y$ -axis. Choice B is similarly ruled out. Note that if the  $y$ -intercept of either of the lines in Choices A and B were greater than or equal to 4 instead of less than 4, they would intersect the graph of  $f$ .

Choices C and D are lines with slope 2 and  $y$ -intercepts less than 4. Hence, they are parallel to the graph of  $f$  (to the right of the  $y$ -axis) and therefore will not intersect it. Any line with a slope greater than 2 and a  $y$ -intercept less than 4, like the line in Choice E, will intersect the graph of  $f$  (to the right of the  $y$ -axis).

**The correct answer is Choice E,  $g(x) = 3x - 2$ .**

2. A car got 33 miles per gallon using gasoline that cost \$2.95 per gallon. What was the approximate cost, in dollars, of the gasoline used in driving the car 350 miles?
- (A) \$10
  - (B) \$20
  - (C) \$30
  - (D) \$40
  - (E) \$50

### Explanation

Scanning the answer choices indicates that you can do at least some estimation and still answer confidently. The car used  $\frac{350}{33}$  gallons of gasoline, so the

cost was  $\left(\frac{350}{33}\right)(2.95)$  dollars. You can estimate the product  $\left(\frac{350}{33}\right)(2.95)$  by estimating  $\frac{350}{33}$  a little low, 10, and estimating 2.95 a little high, 3, to get approximately  $(10)(3) = 30$  dollars. You can also use the calculator to compute a more exact answer and then round the answer to the nearest 10 dollars, as suggested by the answer choices. The calculator yields the decimal 31.287..., which rounds to 30 dollars.

Thus, the correct answer is Choice C, \$30.

## Multiple-choice Questions—Select One or More Answer Choices

These questions are multiple-choice questions that ask you to select one or more answer choices from a list of choices. A question may or may not specify the number of choices to select.

### Tips for Answering

- **Note whether you are asked to indicate a specific number of answer choices or all choices that apply.** In the latter case, be sure to consider all of the choices, determine which ones are correct, and select all of those and only those choices. Note that there may be only one correct choice.
- **In some questions that involve inequalities that limit the possible values of the answer choices, it may be efficient to determine the least and/or the greatest possible value.** Knowing the least and/or greatest possible value may enable you to quickly determine all of the choices that are correct.
- **Avoid lengthy calculations by recognizing and continuing numerical patterns.**

### Sample Questions

**Directions:** Select one or more answer choices according to the specific question directions.

If the question does not specify how many answer choices to select, select all that apply.

- The correct answer may be just one of the choices or as many as all of the choices, depending on the question.
- No credit is given unless you select all of the correct choices and no others.

If the question specifies how many answer choices to select, select exactly that number of choices.

**Directions:** For the following question, select exactly two answer choices.

1. Which two of the following numbers have a product that is greater than 60?
  - (A) -9
  - (B) -7
  - (C) 6
  - (D) 8

### Explanation

For this type of question, it is often possible to exclude some pairs of answer choices. In this question, the product must be positive, so the only possible products are either  $(-7)(-9) = 63$  or  $(6)(8) = 48$ .

The correct answer consists of Choices A and B: -9 and -7.

**Directions:** For the following question, select all the answer choices that apply.

2. Each employee of a certain company is in either Department X or Department Y, and there are more than twice as many employees in Department X as in Department Y. The average (arithmetic mean) salary is \$25,000 for the employees in Department X and is \$35,000 for the employees in Department Y. Which of the following amounts could be the average salary for all of the employees in the company?

Indicate all such amounts.

- (A) \$26,000
- (B) \$28,000
- (C) \$29,000
- (D) \$30,000
- (E) \$31,000
- (F) \$32,000
- (G) \$34,000

### Explanation

One strategy for answering this kind of question is to find the least and/or greatest possible value. Clearly the average salary is between \$25,000 and \$35,000, and all of the answer choices are in this interval. Since you are told that there are more employees with the lower average salary, the average salary of all employees must be less than the average of \$25,000 and \$35,000, which is \$30,000. If there were exactly twice as many employees in Department X as in

Department Y, then the average salary for all employees would be, to the nearest dollar, the following weighted mean,

$$\frac{(2)(25,000) + (1)(35,000)}{2 + 1} \approx 28,333 \text{ dollars}$$

where the weight for \$25,000 is 2 and the weight for \$35,000 is 1. Since there are *more* than twice as many employees in Department X as in Department Y, the actual average salary must be even closer to \$25,000 because the weight for \$25,000 is greater than 2. This means that \$28,333 is the greatest possible average. Among the choices given, the possible values of the average are therefore \$26,000 and \$28,000.

**Thus, the correct answer consists of Choices A and B: \$26,000 and \$28,000.**

Intuitively, you might expect that any amount between \$25,000 and \$28,333 is a possible value of the average salary. To see that \$26,000 is possible, in the weighted mean above, use the respective weights 9 and 1 instead of 2 and 1. To see that \$28,000 is possible, use the respective weights 7 and 3.

## Numeric Entry Questions

Questions of this type ask you to enter a number by filling in circles in a grid. Your answer may be an integer, a decimal, or a fraction, and it may be negative.

### Tips for Answering

- **Make sure you answer the question that is asked.** Since there are no answer choices to guide you, read the question carefully and make sure you provide the type of answer required. Sometimes there will be labels before or after the grid to indicate the appropriate type of answer. Pay special attention to units such as feet or miles, to orders of magnitude such as millions or billions, and to percents as compared with decimals.
- **If you are asked to round your answer, make sure you round to the required degree of accuracy.** For example, if an answer of 46.7 is to be rounded to the nearest integer, you need to enter the number 47. If your solution strategy involves intermediate computations, you should carry out all computations exactly and round only your final answer in order to get the required degree of accuracy. If no rounding instructions are given, enter the exact answer.

- **Examine your answer to see if it is reasonable with respect to the information given.** You may want to use estimation or another solution path to double-check your answer.

### Sample Questions

**Directions: Enter a number by filling in circles in a grid.**

- Your answer may be an integer, a decimal, or a fraction, and it may be negative.
- Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
- Enter the exact answer unless the question asks you to round your answer.
- If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.
- Start your answer in any column, space permitting. Fill in no more than one circle in any column of the grid. Columns not needed should be left blank.
- Write your answer in the boxes at the top of the grid and fill in the corresponding circles. **You will receive credit only if the circles are filled in correctly, regardless of the number written in the boxes at the top.**

Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

	5	0	2				
⊖	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

				5	0	2	
⊖	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

Decimal answer: -4.13

	-			4	.	1	3
⊖	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

Fraction answer:  $-\frac{2}{10}$

	-	2	/	1	0		
⊖	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

Directions: For the following question, use the grid to enter your answer.

1. Rectangle R has length 30 and width 10, and square S has length 5. The perimeter of S is what fraction of the perimeter of R ?

				/			
⊖	0	0	0		0	0	0
	1	1	1		1	1	1
	2	2	2		2	2	2
	3	3	3		3	3	3
	4	4	4		4	4	4
	5	5	5		5	5	5
	6	6	6		6	6	6
	7	7	7		7	7	7
	8	8	8		8	8	8
	9	9	9		9	9	9

Explanation

The perimeter of R is  $30 + 10 + 30 + 10 = 80$ , and the perimeter of S is  $(4)(5) = 20$ . Therefore, the perimeter of S is  $\frac{20}{80}$  of the perimeter of R. To enter the answer  $\frac{20}{80}$ , you should enter the numerator 20 before the division slash and the denominator 80 after the division slash. Because the fraction does not need to be reduced to lowest terms, any fraction that is equivalent to  $\frac{20}{80}$  is also considered correct, as long as it fits in the grid. For example, both of the fractions  $\frac{2}{8}$  and  $\frac{1}{4}$  are considered correct.

Thus, the correct answer is  $\frac{20}{80}$  (or equivalent).

**Directions:** For the following question, use the grid to enter your answer.

2. Working alone at its constant rate, machine A produces  $k$  car parts in 10 minutes. Working alone at its constant rate, machine B produces  $k$  car parts in 15 minutes. How many minutes does it take machines A and B, working simultaneously at their respective constant rates, to produce  $k$  car parts?

	minutes						
⊖							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							

**Explanation**

Machine A produces  $\frac{k}{10}$  parts per minute, and machine B produces  $\frac{k}{15}$  parts per minute. So when the machines work simultaneously, the rate at which the parts are produced is the sum of these two rates, which is  $\frac{k}{10} + \frac{k}{15} = k\left(\frac{1}{10} + \frac{1}{15}\right) = k\left(\frac{25}{150}\right) = \frac{k}{6}$  parts per minute. To compute the time required to produce  $k$  parts at this rate, divide the amount  $k$  by the rate  $\frac{k}{6}$  to get  $\frac{k}{\frac{k}{6}} = 6$ .

**Therefore, the correct answer is 6 minutes (or equivalent).**

One way to check that the answer of 6 minutes is reasonable is to observe that if the slower rate of machine B were the same as machine A’s faster rate of  $k$  parts in 10 minutes, then the two machines, working simultaneously, would take half the time, or 5 minutes, to produce the  $k$  parts. So the answer has to be *greater than 5 minutes*. Similarly, if the faster rate of machine A were the same as machine B’s slower rate of  $k$  parts in 15 minutes, then the two machines, would take half the time, or 7.5 minutes, to produce the  $k$  parts. So the answer has to be *less than 7.5 minutes*. Thus, the answer of 6 minutes is reasonable compared to the lower estimate of 5 minutes and the upper estimate of 7.5 minutes.

**Data Interpretation Questions**

Data Interpretation questions are grouped together and refer to the same table, graph, or other data presentation. These questions ask you to interpret or analyze the given data. The types of questions may be Multiple-choice (both types) or Numeric Entry.

**Tips for Answering**

- **Scan the data presentation briefly to see what it is about, but do not spend time studying all of the information in detail.** Focus on those aspects of the data that are necessary to answer the questions. Pay attention to the axes and scales of graphs; to the units of measurement or orders of magnitude (such as *billions*) that are given in the titles, labels, and legends; and to any notes that clarify the data.
- **Bar graphs and circle graphs, as well as other graphical displays of data, are drawn to scale, so you can read or estimate data visually from such graphs.** For example, you can use the relative sizes of bars or sectors to compare the quantities that they represent, but be aware of broken scales and of bars that do not start at 0.

- The questions are to be answered only on the basis of the data presented, everyday facts (such as the number of days in a year), and your knowledge of mathematics. Do not make use of specialized information you may recall from other sources about the particular context on which the questions are based unless the information can be derived from the data presented.

### Sample Questions

Directions: Questions 1–3 are based on the following data.

ANNUAL PERCENT CHANGE IN DOLLAR AMOUNT OF SALES AT FIVE RETAIL STORES FROM 2006 TO 2008

Store	Percent Change from 2006 to 2007	Percent Change from 2007 to 2008
P	+10	-10
Q	-20	+9
R	+5	+12
S	-7	-15
T	+17	-8

Figure 6

- If the dollar amount of sales at Store P was \$800,000 for 2006, what was the dollar amount of sales at that store for 2008 ?
  - (A) \$727,200
  - (B) \$792,000
  - (C) \$800,000
  - (D) \$880,000
  - (E) \$968,000

### Explanation

According to Figure 6, if the dollar amount of sales at Store P was \$800,000 for 2006, then it was 10 percent greater for 2007, which is 110 percent of that amount, or \$880,000. For 2008 the amount was 90 percent of \$880,000, which is \$792,000.

The correct answer is Choice B, \$792,000.

Note that an increase of 10 percent for one year and a decrease of 10 percent for the following year does not result in the same dollar amount as the original dollar amount because the base that is used in computing the percents is \$800,000 for the first change but \$880,000 for the second change.

Directions: For the following question, use the grid to enter your answer.

- At Store T, the dollar amount of sales for 2007 was what percent of the dollar amount of sales for 2008 ?

Give your answer to the nearest 0.1 percent.

											%
⊖	.	.	.	.	.	.	.	.	.	.	.
0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9

### Explanation

If  $A$  is the dollar amount of sales at Store T for 2007, then 8 percent of  $A$ , or  $0.08A$ , is the amount of decrease from 2007 to 2008. Thus  $A - 0.08A = 0.92A$  is the dollar amount for 2008. Therefore, the desired percent can be obtained by dividing  $A$  by  $0.92A$ , which equals  $\frac{A}{0.92A} = \frac{1}{0.92} = 1.0869565\dots$ . Expressed as a percent and rounded to the nearest 0.1 percent, this number is 108.7%.

Thus, the correct answer is 108.7% (or equivalent).

Note that since you are asked to give the answer as a percent, the decimal equivalent of 108.7 percent, which is 1.087, is incorrect. The percent symbol next to the grid indicates that the form of the answer must be a percent. Entering 1.087 in the box would give the erroneous answer 1.087%.

**Directions:** For the following question, select all the answer choices that apply.

3. Which of the following statements must be true? Indicate all such statements.

- (A) For 2008 the dollar amount of sales at Store R was greater than that at each of the other four stores.
- (B) The dollar amount of sales at Store S for 2008 was 22 percent less than that for 2006.
- (C) The dollar amount of sales at Store R for 2008 was more than 17 percent greater than that for 2006.

### Explanation

For Choice A, since the only data given in Figure 6 are percent changes from year to year, there is no way to compare the actual dollar amount of sales at the stores for 2008 or for any other year. Even though Store R had the greatest percent increase from 2006 to 2008, its actual dollar amount of sales for 2008 may have been much smaller than that for any of the other four stores, and therefore Choice A is not necessarily true.

For Choice B, even though the sum of the two percent decreases would suggest a 22 percent decrease, the bases of the percents are different. If  $B$  is the dollar amount of sales at Store S for 2006, then the dollar amount for 2007 is 93 percent of  $B$ , or  $0.93B$ , and the dollar amount for 2008 is given by  $(0.85)(0.93)B$ , which is  $0.7905B$ . Note that this represents a percent decrease of  $100 - 79.05 = 20.95$  percent, which is less than 22 percent, and so Choice B is not true.

For Choice C, if  $C$  is the dollar amount of sales at Store R for 2006, then the dollar amount for 2007 is given by  $1.05C$  and the dollar amount for 2008 is given by  $(1.12)(1.05)C$ , which is  $1.176C$ . Note that this represents a 17.6 percent increase, which is greater than 17 percent, so Choice C must be true.

**Therefore, the correct answer consists of only Choice C: The dollar amount of sales at Store R for 2008 was more than 17 percent greater than that for 2006.**

## Using the Calculator

Sometimes the computations you need to do to answer a question in the Quantitative Reasoning measure are somewhat tedious or time-consuming, like long division or square roots. For such computations, you can use the handheld calculator provided to you at the test site. The handheld calculator is a basic four-function calculator with a square root function and with buttons for memory.

Although the calculator can shorten the time it takes to perform computations, keep in mind that the calculator provides results that supplement, but do not replace, your knowledge of mathematics. You must use your mathematical knowledge to determine whether the calculator's results are reasonable and how the results can be used to answer a question.

Here are some general guidelines for calculator use in the Quantitative Reasoning measure:

- Most of the questions don't require difficult computations, so don't use the calculator just because it's available.
- Use it for calculations that you know are tedious, such as long division, square roots, and addition, subtraction, or multiplication of numbers that have several digits.
- Avoid using it for simple computations that are quicker to do mentally, such as  $10 - 490$ ,  $(4)(70)$ ,  $\frac{4,300}{10}$ ,  $\sqrt{25}$ , and  $30^2$ .
- Some questions can be answered more quickly by reasoning and estimating than by using the calculator.
- If you use the calculator, estimate the answer beforehand so you can determine whether the calculator's answer is "in the ballpark." This may help you avoid key-entry errors.

The following guidelines are specific to the handheld calculator in the paper-based test:

- Some computations are not defined for real numbers; for example, division by zero or taking the square root of a negative number. The calculator will indicate that these are errors.
- The calculator displays up to eight digits. If a computation results in a number larger than 99,999,999, then the calculator will indicate that this is an error. For example, the calculation  $10,000,000 \times 10 =$  results in an error.



- When a computation involves more than one operation, the calculator performs the operations one by one in the order in which they are entered. For example, when the computation  $1 + 2 \times 4$  is entered into the calculator, the result is 12. To get this result, the calculator adds 1 and 2, displays a result of 3, and then multiplies 3 and 4 and displays a result of 12. The calculator does not perform operations with respect to the mathematical convention called *order of operations*, described below.

The *order of operations* convention, which is purely mathematical and predates calculators, establishes which operations are performed before others in a mathematical expression that has more than one operation. The order is as follows: parentheses, exponentiation (including square roots), multiplications and divisions (from left to right), additions and subtractions (from left to right). For example, the value of the expression  $1 + 2 \times 4$  calculated with respect to order of operations is 9, because the expression is evaluated by first multiplying 2 and 4 and then by adding 1 to the result.

Some calculators perform multiple operations using the order of operations convention, but the handheld calculator on the Quantitative Reasoning measure does not; again, it performs multiple operations one by one in the order that they are entered into the calculator.

Below is an example of a computation using the handheld calculator.

**Example** Compute  $4 + \frac{6.73}{2}$ .

**Explanation**

Perform the division first; that is, enter

6.73  $\boxed{\div}$  2  $\boxed{=}$  to get 3.365, and then enter

$\boxed{+}$  4  $\boxed{=}$  to get 7.365. Note that if you enter

4  $\boxed{+}$  6.73  $\boxed{\div}$  2  $\boxed{=}$ , the answer will be incorrect, because the calculator would perform the addition before the division, resulting in

$\frac{4 + 6.73}{2}$  rather than  $4 + \frac{6.73}{2}$ .

## Taking the Practice Test

After you have become familiar with the three measures of the revised General Test, it is time to take the practice test in this publication 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 revised General Test begins on page 35. The total time that should be allotted for this practice test is 3 hours and 30 minutes. The time that should be allotted for each section appears at the beginning of the section.

## Evaluating Your Performance

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

### Analytical Writing Measure

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 and reader commentary are presented in Appendix C on pages 106–115 for the one Issue topic and one Argument topic presented in the Analytical Writing sections 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 measure. You should review the score level descriptions in Appendix A on page 96 to better understand the analytical writing abilities characteristic of particular score levels.

## Verbal and Quantitative Measures

Appendix D on pages 116–117 contains information to help you evaluate your performance on the Verbal Reasoning and Quantitative Reasoning measures. A table of the correct answers to the questions in the Verbal Reasoning and Quantitative Reasoning sections is provided on page 116. Compare your answers to the correct answers given in the table, crossing out questions you answered incorrectly or omitted. Partially correct answers should be treated as incorrect.

You can evaluate your performance by comparing your performance on each test question to the performance of a group of actual GRE test takers who were administered those questions at previous test administrations. In the table on page 116, there is a number to the right of each correct answer. That number, referred to as P+, is the percent of test takers who answered the question correctly. P+ is used to gauge the relative difficulty of a test question. The higher the P+, the easier the test question. This information enables you to see how other test takers 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 1 and 2 to obtain your raw Verbal Reasoning score. Add the number of correct answers in Sections 3 and 4 to obtain your raw Quantitative Reasoning score. Once you have calculated your raw scores, refer to the score conversion table on page 117 to find the scaled score ranges corresponding to your raw scores on both the Verbal Reasoning and Quantitative Reasoning measures. These score ranges are based on the previous 200–800 GRE General Test reporting scales. They are provided as an estimate of your performance because the new score scale will not be available until November 2011. Beginning in November 2011, you can obtain information about how the scores on the 200–800 scales correspond to the new 130–170 scales at [www.ets.org/gre/revised\\_general](http://www.ets.org/gre/revised_general). These score ranges should give you a general idea of how you might perform on the revised GRE General Test but they are not precise predictions of your future test performance. The score ranges provided can help guide your test preparation.

The table on pages 118–119 allows you to compare your scaled score ranges with the scores of others who have taken the General Test. The table provides for each scaled score the percent of test takers who

earned lower scores (percentile rank). To evaluate the level of your performance on the practice test, find the percentile ranks associated with the scaled scores in your score range. These percentile ranks are only meant to provide you with a general indication of your performance and may not be identical to the percentile ranks for the GRE revised General Test that will be published in November 2011.

## Additional Test Preparation

ETS offers two low-cost preparation options, including:

- *The Official Guide to the GRE revised General Test*—get specific details on the revised test and practice with sets of questions from the creators of the GRE test
- *ScoreItNow!™ Online Writing Practice* for the GRE revised General Test—sharpen your writing skills as you prepare for the Analytical Writing measure of the GRE revised General Test

Visit the GRE website at [www.ets.org/gre/revised\\_prepare](http://www.ets.org/gre/revised_prepare) for more information about these options.



GRADUATE RECORD EXAMINATIONS®

## General Test

You will have 3 hours and 30 minutes to work on this test, which consists of two writing tasks and four multiple-choice sections. During the time allowed for one section, you may work **only** on that section. The time allowed for each section is printed at the top of the first page of the section.

Your essay responses on the Analytical Writing sections will be reviewed by experienced essay readers during the scoring process. In light of the high value placed on independent intellectual activity within 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 similar to that found in one or more other GRE essay responses
- Quoting or paraphrasing, without attribution, language that appears 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 words have, in fact, been borrowed from elsewhere or prepared by another person

When one or more of the above circumstances occur, your essay text, in ETS's professional judgment, does not reflect the independent writing skills that this test seeks to measure. Therefore, ETS must cancel the Analytical Writing score as invalid and cannot report the GRE General Test scores of which the Analytical Writing score is an indispensable part. No record of the score cancellation or the reason for cancellation will appear on future score reports sent to colleges and universities.

*Do not open this test book until instructed to do so.*

*The contents of this test are confidential. Disclosure or reproduction of any portion is prohibited.*

**THIS TEST BOOK MUST NOT BE TAKEN FROM THE ROOM.**



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## SECTION 1

## Analytical Writing

Time—30 minutes

## ANALYZE AN ISSUE

You have 30 minutes to plan and compose a response to the issue below. A response to any other issue will receive a score of zero. Make sure that you respond according to the specific instructions and support your position on the issue with reasons and examples drawn from such areas as your reading, experience, observations, and/or academic studies.

A nation should require all of its students to study the same national curriculum until they enter college.

Discuss the extent to which you agree or disagree with the recommendation above and explain your reasoning for the position you take. In developing and supporting your position, describe specific circumstances in which adopting the recommendation would or would not be advantageous and explain how those examples shape your position.

Trained GRE readers will evaluate your response for its overall quality based on how well you:

- Respond to the specific task instructions
- Consider the complexities of the issue
- Organize, develop, and express your ideas
- Support your ideas with relevant reasons and/or examples
- Control the elements of standard written English

Before you begin writing, you may want to think for a few minutes about the issue and the specific task instructions and then plan your response. **Use the next page to plan your response, then write your response starting on the first lined page that follows. A total of four lined pages are provided for your response.** Be sure to develop your position fully and organize it coherently, but leave time to reread what you have written and make any revisions you think are necessary.

Write your response within the boxed area on the pages provided. Any text outside the boxed area will not be scored.

**1 1 1 1 1 1 1 1 1 1 1**

**Plan Your Response Here — Begin Writing Your Essay on the Following Page**

**This page will not be scored.**

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any part of this page is illegal.

**GO ON TO THE NEXT PAGE.**











**SECTION 2**  
**Analytical Writing**

Time—30 minutes

**ANALYZE AN ARGUMENT**

You have 30 minutes to plan and compose a response in which you evaluate the argument passage that appears below. A response to any other argument will receive a score of zero. Make sure that you respond according to the specific instructions and support your evaluation with relevant reasons and/or examples.

**Note that you are NOT being asked to present your own views on the subject.**

The following is a memorandum from the business manager of a television station.

“Over the past year, our late-night news program has devoted increased time to national news and less time to weather and local news. During this time period, most of the complaints received from viewers were concerned with our station’s coverage of weather and local news. In addition, local businesses that used to advertise during our late-night news program have just canceled their advertising contracts with us. Therefore, in order to attract more viewers to the program and to avoid losing any further advertising revenues, we should restore the time devoted to weather and local news to its former level.”

Write a response in which you discuss what specific evidence is needed to evaluate the argument and explain how the evidence would weaken or strengthen the argument.

Trained GRE readers will evaluate your response for its overall quality based on how well you:

- Respond to the specific task instructions
- Consider the complexities of the issue
- Organize, develop, and express your ideas
- Support your ideas with relevant reasons and/or examples
- Control the elements of standard written English

Before you begin writing, you may want to think for a few minutes about the argument and the specific task instructions and then plan your response. **Use the next page to plan your response, then write your response starting on the first lined page that follows. A total of four lined pages are provided for your response.** Be sure to develop your position fully and organize it coherently, but leave time to reread what you have written and make any revisions you think are necessary.

Write your response within the boxed area on the pages provided. Any text outside the boxed area will not be scored.

**2 2 2 2 2 2 2 2 2 2 2**

**Plan Your Response Here — Begin Writing Your Essay on the Following Page**

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**GO ON TO THE NEXT PAGE.**









# Instructions for Verbal Reasoning and Quantitative Reasoning Sections

## Important Notes

Your scores for these sections will be determined by the number of questions you answer correctly. Nothing is subtracted from a score if you answer a question incorrectly. Therefore, to maximize your scores it is better for you to guess at an answer than not to respond at all. Work as rapidly as you can without losing accuracy. Do not spend too much time on questions that are too difficult for you. Go on to the other questions and come back to the difficult ones later.

Some or all of the passages in this test have been adapted from published material to provide the examinee with significant problems for analysis and evaluation. To make the passages suitable for testing purposes, the style, content, or point of view of the original may have been altered. The ideas contained in the passages do not necessarily represent the opinions of the Graduate Record Examinations Board or Educational Testing Service.

You may use a calculator in the Quantitative Reasoning sections only. You will be provided with a calculator and cannot use any other calculator.

## Marking Your Answers

All answers must be marked in this test book. When filling in the circles that accompany each question, BE SURE THAT EACH MARK IS DARK AND COMPLETELY FILLS THE CIRCLE.

<u>Correct</u>		<u>Incorrect</u>		
<input type="radio"/> A	<input checked="" type="checkbox"/>	<input type="radio"/> A	<input type="radio"/> A	<input type="radio"/> A
<input checked="" type="radio"/> B	<input type="radio"/> B	<input checked="" type="radio"/> B	<input type="radio"/> B	<input type="radio"/> B
<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input type="radio"/> C	<input checked="" type="radio"/> C
<input type="radio"/> D	<input type="radio"/> D	<input type="radio"/> D	<input checked="" type="radio"/> D	<input type="radio"/> D

Be careful to erase any stray marks that lie in or near a circle. If you change an answer, be sure that all previous marks are erased completely. Stray marks and incomplete erasures may be read as intended answers. Scratch paper will not be provided. You may work out your answers in the blank areas of the test book, but do not work out answers near the circles.

## Question Formats

The questions in these sections have several different formats. A brief description of these formats and instructions for entering your answer choices are given below.

### **Multiple-choice Questions—Select One Answer Choice**

These standard multiple-choice questions require you to select just one answer choice from a list of options. You will receive credit only if you mark the **single** correct answer choice and no other.

**Example:** What city is the capital of France?

- A Rome
- B Paris
- C London
- D Cairo



### Multiple-choice Questions—Select One or More Answer Choices

Some of these questions specify how many answer choices to select; others require you to select all that apply. In either case, to receive credit you must mark all of the correct answer choices and no others. These questions are distinguished by the use of a square box.

**Example:** Select all that apply.

Which of the following countries is in Africa?

- A Chad
- B China
- C France
- D Kenya

### Column Format Questions

This question type presents the answer choices in columns. You must select one answer choice from each column. You will receive credit only if you mark the correct answer choice **in each column**.

**Example:** Complete the following sentence.

(i) \_\_\_\_\_ is the capital of (ii) \_\_\_\_\_ .

Blank (i)

- A Paris
- B Rome
- C Cairo

Blank (ii)

- D Canada
- E France
- F China

### Numeric Entry Questions

To answer these questions, enter a number by filling in circles in a grid. Complete instructions for doing so will be found in the Quantitative Reasoning sections.

SECTION 3  
Verbal Reasoning  
Time—35 minutes  
25 Questions

For each question, indicate the best answer, using the directions given.

For each of Questions 1 to 8, select one entry for each blank from the corresponding column of choices. Fill all blanks in the way that best completes the text.

1. In the 1950s, the country's inhabitants were \_\_\_\_\_: most of them knew very little about foreign countries.

- (A) partisan
- (B) erudite
- (C) insular
- (D) cosmopolitan
- (E) imperturbable

2. It is his dubious distinction to have proved what nobody would think of denying, that Romero at the age of sixty-four writes with all the characteristics of \_\_\_\_\_.

- (A) maturity
- (B) fiction
- (C) inventiveness
- (D) art
- (E) brilliance

3. Given how (i) \_\_\_\_\_ the shortcomings of the standard economic model are in its portrayal of human behavior, the failure of many economists to respond to them is astonishing. They continue to fill the journals with yet more proofs of yet more (ii) \_\_\_\_\_ theorems. Others, by contrast, accept the criticisms as a challenge, seeking to expand the basic model to embrace a wider range of things people do.

Blank (i)

- (A) overlooked  
(B) occasional  
(C) patent

Blank (ii)

- (D) comprehensive  
(E) improbable  
(F) pervasive

4. The (i) \_\_\_\_\_ nature of classical tragedy in Athens belies the modern image of tragedy: in the modern view tragedy is austere and stripped down, its representations of ideological and emotional conflicts so superbly compressed that there's nothing (ii) \_\_\_\_\_ for time to erode.

Blank (i)

- (A) unadorned  
(B) harmonious  
(C) multifaceted

Blank (ii)

- (D) inalienable  
(E) exigent  
(F) extraneous

5. Stories are a haunted genre; hardly (i) \_\_\_\_\_ kind of story, the ghost story is almost the paradigm of the form, and (ii) \_\_\_\_\_ was undoubtedly one effect that Poe had in mind when he wrote about how stories work.

Blank (i)

- (A) a debased  
(B) a normative  
(C) a meticulous

Blank (ii)

- (D) pessimism  
(E) goosebumps  
(F) curiosity

6. To the untutored eye the tightly forested Ardennes hills around Sedan look quite (i) \_\_\_\_\_, (ii) \_\_\_\_\_ place through which to advance a modern army; even with today's more numerous and better roads and bridges, the woods and the river Meuse form a significant (iii) \_\_\_\_\_.

Blank (i)

- (A) impenetrable
- (B) inconsiderable
- (C) uncultivated

Blank (ii)

- (D) a makeshift
- (E) an unpropitious
- (F) an unremarkable

Blank (iii)

- (G) resource
- (H) impediment
- (I) passage

7. Room acoustics design criteria are determined according to the room's intended use. Music, for example, is best (i) \_\_\_\_\_ in spaces that are reverberant, a condition that generally makes speech less (ii) \_\_\_\_\_. Acoustics suitable for both speech and music can sometimes be created in the same space, although the result is never perfect, each having to be (iii) \_\_\_\_\_ to some extent.

Blank (i)

- (A) controlled
- (B) appreciated
- (C) employed

Blank (ii)

- (D) abrasive
- (E) intelligible
- (F) ubiquitous

Blank (iii)

- (G) compromised
- (H) eliminated
- (I) considered

8. The question of (i) \_\_\_\_\_ in photography has lately become nontrivial. Prices for vintage prints (those made by a photographer soon after he or she made the negative) so drastically (ii) \_\_\_\_\_ in the 1990s that one of these photographs might fetch a hundred times as much as a nonvintage print of the same image. It was perhaps only a matter of time before someone took advantage of the (iii) \_\_\_\_\_ to peddle newly created “vintage” prints for profit.

Blank (i)

- Ⓐ forgery
- Ⓑ influence
- Ⓒ style

Blank (ii)

- Ⓓ ballooned
- Ⓔ weakened
- Ⓕ varied

Blank (iii)

- Ⓖ discrepancy
- Ⓗ ambiguity
- Ⓘ duplicity

For each of Questions 9 to 14 select one answer choice unless otherwise directed.

Questions 9 to 11 are based on this passage.

In *Raisin in the Sun*, Lorraine Hansberry does not reject integration or the economic and moral promise of the American dream; rather, she remains loyal to this dream while looking, realistically, at its  
 Line 5 incomplete realization. Once we recognize this dual vision, we can accept the play’s ironic nuances as deliberate social commentaries by Hansberry rather than as the “unintentional” irony that Bigsby attributes to the work. Indeed, a curiously persistent  
 10 refusal to credit Hansberry with a capacity for intentional irony has led some critics to interpret the play’s thematic conflicts as mere confusion, contradiction, or eclecticism. Isaacs, for example, cannot easily reconcile Hansberry’s intense concern  
 15 for her race with her ideal of human reconciliation. But the play’s complex view of Black self-esteem and human solidarity as compatible is no more “contradictory” than Du Bois’ famous, well-considered ideal of ethnic self-awareness  
 20 coexisting with human unity, or Fanon’s emphasis on an ideal internationalism that also accommodates national identities and roles.

9. The author of the passage would probably consider which of the following judgments to be most similar to the reasoning of the critics mentioned in line 11?
- (A) The world is certainly flat; therefore, the person proposing to sail around it is unquestionably foolhardy.
  - (B) Radioactivity cannot be directly perceived; therefore, a scientist could not possibly control it in a laboratory.
  - (C) The painter of this picture could not intend it to be funny; therefore, its humor must result from a lack of skill.
  - (D) Traditional social mores are beneficial to culture; therefore, anyone who deviates from them acts destructively.
  - (E) Filmmakers who produce documentaries deal exclusively with facts; therefore, a filmmaker who reinterprets particular events is misleading us.
10. In which sentence of the passage does the author provide examples that reinforce an argument against a critical response cited earlier in the passage?
- (A) The first sentence (“In *Raisin* ... realization”)
  - (B) The second sentence (“Once we ... work”)
  - (C) The third sentence (“Indeed, ... eclecticism”)
  - (D) The fourth sentence (“Isaacs, ... reconciliation”)
  - (E) The fifth sentence (“But the ... roles”)
11. In the context in which it appears, “realization” (line 5) most nearly means
- (A) understanding
  - (B) accomplishment
  - (C) depiction
  - (D) recognition
  - (E) discovery

Questions 12 and 13 are based on this passage.

According to the conventional view, serfdom in nineteenth-century Russia inhibited economic growth. In this view Russian peasants' status as serfs kept them poor through burdensome taxes in cash, in labor, and in kind; through restrictions on mobility; and through various forms of coercion. Melton, however, argues that serfdom was perfectly compatible with economic growth, because many Russian serfs were able to get around landlords' rules and regulations. If serfs could pay for passports, they were usually granted permission to leave the estate. If they could pay the fine, they could establish a separate household; and if they had the resources, they could hire laborers to cultivate the communal lands, while they themselves engaged in trade or worked as migrant laborers in cities.

For the following question, consider each of the choices separately and select all that apply.

12. It can be inferred from the passage that the "rules and regulations" (lines 9-10) affecting serfdom in Russia involved
- (A) responsibility for the work needed to accomplish certain defined tasks
  - (B) restrictions on freedom of movement
  - (C) limitations on the ability to set up an independent household

For the following question, consider each of the choices separately and select all that apply.

13. The sentence "If serfs ... estate" (lines 10-11) has which of the following functions in the passage?
- (A) It provides support for an argument presented in the preceding sentence.
  - (B) It provides evidence that helps undermine a view introduced in the first sentence.
  - (C) It raises a question that the succeeding sentence will resolve.

Question 14 is based on this passage.

Rain-soaked soil contains less oxygen than does drier soil. **The roots of melon plants perform less efficiently under the low-oxygen conditions present in rainsoaked soil.** When the efficiency of melon roots is impaired, the roots do not supply sufficient amounts of the proper nutrients for the plants to perform photosynthesis at their usual levels. It follows that **melon plants have a lower-than-usual rate of photosynthesis when their roots are in rain-soaked soil.** When the photosynthesis of the plants slows, sugar stored in the fruits is drawn off to supply the plants with energy. Therefore, ripe melons harvested after a prolonged period of heavy rain should be less sweet than other ripe melons.

14. In the argument given, the two portions in **boldface** play which of the following roles?

- (A) The first states the conclusion of the argument as a whole; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument as a whole; the second provides evidence that supports an objection to that conclusion.
- (C) The first provides support for an intermediate conclusion that supports a further conclusion stated in the argument; the second states that intermediate conclusion.
- (D) The first serves as an intermediate conclusion that supports a further conclusion stated in the argument; the second states the position that the argument as a whole opposes.
- (E) The first states the position that the argument as a whole opposes; the second supports the conclusion of the argument.

For each of Questions 15 to 19, select the two answer choices that when used to complete the sentence blank, fit the meaning of the sentence as a whole and produce completed sentences that are alike in meaning.

15. Early critics of Emily Dickinson's poetry mistook for simplemindedness the surface of artlessness that in fact she constructed with such \_\_\_\_\_.
- (A) astonishment
  - (B) craft
  - (C) cunning
  - (D) innocence
  - (E) naïveté
  - (F) vexation
16. While in many ways their personalities could not have been more different—she was ebullient where he was glum, relaxed where he was awkward, garrulous where he was \_\_\_\_\_—they were surprisingly well suited.
- (A) solicitous
  - (B) munificent
  - (C) irresolute
  - (D) laconic
  - (E) fastidious
  - (F) taciturn
17. Since becoming commissioner, Mr. Vincente has snapped at the heels of the dominant firms in European industry more \_\_\_\_\_ than his smoother predecessors and has consequently acquired many more enemies.
- (A) sporadically
  - (B) irascibly
  - (C) persistently
  - (D) pugnaciously
  - (E) fitfully
  - (F) judiciously
18. Even in this business, where \_\_\_\_\_ is part of everyday life, a talent for lying is not something usually found on one's resume.
- (A) aspiration
  - (B) mendacity
  - (C) prevarication
  - (D) insensitivity
  - (E) baseness
  - (F) avarice
19. Economic competition among nations may lead to new forms of economic protectionism that harken back to the mercantilism of an earlier age: there are signs today that such protectionism is indeed \_\_\_\_\_.
- (A) evanescent
  - (B) resurgent
  - (C) recrudescant
  - (D) transitory
  - (E) controversial
  - (F) inimical



For each of Questions 20 to 25 select one answer choice unless otherwise directed.

Questions 20 to 22 are based on this passage.

In the 1980s, neuroscientists studying the brain processes underlying our sense of conscious will compared subjects' judgments regarding their subjective will to move (*W*) and actual movement (*M*) with objective electroencephalographic activity called readiness potential, or *RP*. As expected, *W* preceded *M*: subjects consciously perceived the intention to move as preceding a conscious experience of actually moving. This might seem to suggest an appropriate correspondence between the sequence of subjective experiences and the sequence of the underlying events in the brain. But researchers actually found a surprising temporal relation between subjective experience and objectively measured neural events: in direct contradiction of the classical conception of free will, neural preparation to move (*RP*) preceded conscious awareness of the intention to move (*W*) by hundreds of milliseconds.

20. Based on information contained in the passage, which of the following chains of events would most closely conform to the classical conception of free will?

- (A) *W* followed by *RP* followed by *M*
- (B) *RP* followed by *W* followed by *M*
- (C) *M* followed by *W* followed by *RP*
- (D) *RP* followed by *M* followed by *W*
- (E) *RP* followed by *W* and *M* simultaneously

21. In the context in which it appears, "temporal" (line 13) most nearly means

- (A) secular
- (B) mundane
- (C) numerical
- (D) physiological
- (E) chronological

22. The author of the passage mentions the classical conception of free will primarily in order to

- (A) argue that earlier theories regarding certain brain processes were based on false assumptions
- (B) suggest a possible flaw in the reasoning of neuroscientists conducting the study discussed in the passage
- (C) provide a possible explanation for the unexpected results obtained by neuroscientists
- (D) cast doubt on neuroscientists' conclusions regarding the temporal sequence of brain processes
- (E) indicate the reason that the results of the neuroscientists' study were surprising

Questions 23 and 24 are based on this passage.

In early-twentieth-century England, it was fashionable to claim that only a completely new style of writing could address a world undergoing unprecedented transformation— just as one literary critic recently claimed that only the new “aesthetic of exploratory excess” can address a world undergoing ... well, you know. Yet in early-twentieth-century England, T. S. Eliot, a man fascinated by the “presence” of the past, wrote the most innovative poetry of his time. The lesson for today’s literary community seems obvious: a reorientation toward tradition would benefit writers no less than readers. But if our writers and critics indeed respect the novel’s rich tradition (as they claim to), then why do they disdain the urge to tell an exciting story?

23. The author of the passage suggests that present-day readers would particularly benefit from which of the following changes on the part of present-day writers and critics?

- (A) An increased focus on the importance of engaging the audience in a narrative
- (B) Modernization of the traditional novelistic elements already familiar to readers
- (C) Embracing aspects of fiction that are generally peripheral to the interest of readers
- (D) A greater recognition of how the tradition of the novel has changed over time
- (E) A better understanding of how certain poets such as Eliot have influenced fiction of the present time

24. In the context of the passage as a whole, “address” (lines 3 and 6) is closest in meaning to

- (A) reveal
- (B) belie
- (C) speak to
- (D) direct attention toward
- (E) attempt to remediate

Question 25 is based on this passage.

Electric washing machines, first introduced in the United States in 1925, significantly reduced the amount of time spent washing a given amount of clothes, yet the average amount of time households spent washing clothes increased after 1925. This increase is partially accounted for by the fact that many urban households had previously sent their clothes to professional laundries. But the average amount of time spent washing clothes also increased for rural households with no access to professional laundries.

25. Which of the following, if true, most helps to explain why the time spent washing clothes increased in rural areas?

- (A) People with access to an electric washing machine typically wore their clothes many fewer times before washing them than did people without access to electric washing machines.
- (B) Households that had sent their clothes to professional laundries before 1925 were more likely than other households to purchase an electric washing machine when they became available.
- (C) People living in urban households that had previously sent their clothes to professional laundries typically owned more clothes than did people living in rural households.
- (D) The earliest electric washing machines required the user to spend much more time beside the machine than do modern electric washing machines.
- (E) In the 1920s and 1930s the proportion of rural households with electricity was smaller than the proportion of urban households with electricity.

# **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 4**  
**Verbal Reasoning**  
**Time—35 minutes**  
**25 Questions**

For each question, indicate the best answer, using the directions given.

For each of Questions 1 to 8, select one entry for each blank from the corresponding column of choices. Fill all blanks in the way that best completes the text.

1. Dramatic literature often \_\_\_\_\_ the history of a culture in that it takes as its subject matter the important events that have shaped and guided the culture.

- (A) confounds
- (B) repudiates
- (C) recapitulates
- (D) anticipates
- (E) polarizes

2. Far from viewing Jefferson as a skeptical but enlightened intellectual, historians of the 1960s portrayed him as \_\_\_\_\_ thinker, eager to fill the young with his political orthodoxy while censoring ideas he did not like.

- (A) an adventurous
- (B) a doctrinaire
- (C) an eclectic
- (D) a judicious
- (E) a cynical



3. There has been much hand-wringing about how unprepared American students are for college. Graff reverses this perspective, suggesting that colleges are unprepared for students. In his analysis, the university culture is largely (i) \_\_\_\_\_ entering students because academic culture fails to make connections to the kinds of arguments and cultural references that students grasp. Understandably, many students view academic life as (ii) \_\_\_\_\_ ritual.

Blank (i)

- (A) primed for
- (B) opaque to
- (C) essential for

Blank (ii)

- (D) an arcane
- (E) a laudable
- (F) a painstaking

4. The narratives that vanquished peoples have created of their defeat have, according to Schivelbusch, fallen into several identifiable types. In one of these, the vanquished manage to (i) \_\_\_\_\_ the victor's triumph as the result of some spurious advantage, the victors being truly inferior where it counts. Often the winners (ii) \_\_\_\_\_ this interpretation, worrying about the cultural or moral costs of their triumph and so giving some credence to the losers' story.

Blank (i)

- (A) construe
- (B) anoint
- (C) acknowledge

Blank (ii)

- (D) take issue with
- (E) disregard
- (F) collude in

5. The playwright's approach is (i) \_\_\_\_\_ in that her works (ii) \_\_\_\_\_ the theatrical devices normally used to create drama on the stage.

Blank (i)

- (A) pedestrian
- (B) startling
- (C) celebrated

Blank (ii)

- (D) jettison
- (E) experiment with
- (F) distill



6. That the President manages the economy is an assumption (i) \_\_\_\_\_ the prevailing wisdom that dominates electoral politics in the United States. As a result, presidential elections have become referenda on the business cycle, whose fortuitous turnings are (ii) \_\_\_\_\_ the President. Presidents are properly accountable for their executive and legislative performance, and certainly their actions may have profound effects on the economy. But these effects are (iii) \_\_\_\_\_. Unfortunately, modern political campaigns are fought on the untenable premise that Presidents can deliberately produce precise economic results.

Blank (i)

- (A) peripheral to
- (B) central to
- (C) at odds with

Blank (ii)

- (D) justifiably personified in
- (E) erroneously attributed to
- (F) occasionally associated with

Blank (iii)

- (G) usually long-lasting
- (H) regrettably unnoticeable
- (I) largely unpredictable

7. Higher energy prices would have many (i) \_\_\_\_\_ effects on society as a whole. Besides encouraging consumers to be more (ii) \_\_\_\_\_ in their use of gasoline, they would encourage the development of renewable alternative energy sources that are not (iii) \_\_\_\_\_ at current prices.

Blank (i)

- (A) pernicious
- (B) counterintuitive
- (C) salubrious

Blank (ii)

- (D) aggressive
- (E) predictable
- (F) sparing

Blank (iii)

- (G) unstable
- (H) adaptable
- (I) viable

8. But they pay little attention to the opposite and more treacherous failing: false certainty, refusing to confess their mistakes and implicitly claiming (i) \_\_\_\_\_, thereby embarrassing the nation and undermining the Constitution, which established various mechanisms of self-correction on the premise that even the wisest men are sometimes wrong and need, precisely when they find it most (ii) \_\_\_\_\_, the benefit of (iii) \_\_\_\_\_ process.

Blank (i)

- (A) infallibility
- (B) immunity
- (C) impartiality

Blank (ii)

- (D) discomfiting
- (E) expedient
- (F) imminent

Blank (iii)

- (G) an adaptable
- (H) a remedial
- (I) an injudicious



For each of Questions 9 to 15 select one answer choice unless otherwise directed.

Questions 9 and 10 are based on this passage.

The nearly circular orbits of planets in our solar system led scientists to expect that planets around other stars would also reside in circular orbits.

Line However, most known extrasolar planets reside in  
5 highly elongated, not circular, orbits. Why? The best clue comes from comets in our solar system. Comets formed in circular orbits but were gravitationally flung into their present-day elliptical orbits when they ventured too close to planets. Astronomers suspect  
10 that pairs of planets also engage in this slingshot activity, leaving them in disturbed, elliptical orbits. If two planets form in close orbits, one will be scattered inward (toward its star), the other outward. They will likely then travel close enough to neighboring planets to disturb their orbits also.

For the following question, consider each of the choices separately and select all that apply.

9. According to the passage, which of the following factors help account for the elliptical shape of the orbits of extrasolar planets?
- (A) The planets' formation in close proximity to other planets
  - (B) The gravitational influence of planets whose original orbits have been disturbed
  - (C) The gravitational influence of comets

For the following question, consider each of the choices separately and select all that apply.

10. The passage suggests that two planets formed in close orbits that engaged in "slingshot activity" (lines 10-11) would be likely to
- (A) deflect away from each other
  - (B) change the shape of each other's orbit
  - (C) affect the orbits of any neighboring planets

Question 11 is based on this passage.

Even after numerous products made with artificial sweeteners became available, sugar consumption per capita continued to rise. Now manufacturers are  
Line introducing fat-free versions of various foods that  
5 they claim have the taste and texture of the traditional high-fat versions. Even if the manufacturers' claim is true, given that the availability of sugar-free foods did not reduce sugar consumption, it is unlikely that the availability of these fat-free foods will reduce fat consumption.

11. Which of the following, if true, most seriously undermines the argument?
- (A) Several kinds of fat substitute are available to manufacturers, each of which gives a noticeably different taste and texture to products that contain it.
  - (B) The products made with artificial sweeteners did not taste like products made with sugar.
  - (C) The foods brought out in sugar-free versions did not generally have reduced levels of fat, but many of the fat-free versions about to be introduced are low in sugar.
  - (D) People who regularly consume products containing artificial sweeteners are more likely than others to consume fat-free foods.
  - (E) Not all foods containing fat can be produced in fat-free versions.



Questions 12 to 15 are based on this passage.

Recent studies of sediment in the North Atlantic's deep waters reveal possible cyclical patterns in the history of Earth's climate. The rock fragments in these sediments are too large to have been transported there by ocean currents; they must have reached their present locations by traveling in large icebergs that floated long distances from their point of origin before melting. Geologist Gerard Bond noticed that some of the sediment grains were stained with iron oxide, evidence that they originated in locales where glaciers had overrun outcrops of red sandstone. Bond's detailed analysis of deep-water sediment cores showed changes in the mix of sediment sources over time: the proportion of these red-stained grains fluctuated back and forth from lows of 5 percent to highs of about 17 percent, and these fluctuations occurred in a nearly regular 1,500-year cycle.

Bond hypothesized that the alternating cycles might be evidence of changes in ocean-water circulation and therefore in Earth's climate. He knew that the sources of the red-stained grains were generally closer to the North Pole than were the places yielding a high proportion of "clean" grains. At certain times, apparently, more icebergs from the Arctic Ocean in the far north were traveling south well into the North Atlantic before melting and shedding their sediment.

Ocean waters are constantly moving, and water temperature is both a cause and an effect of this movement. As water cools, it becomes denser and sinks to the ocean's bottom. During some periods, the bottom layer of the world's oceans comes from cold, dense water sinking in the far North Atlantic. This causes the warm surface waters of the Gulf Stream to be pulled northward. Bond realized that during such periods, the influx of these warm surface waters into northern regions could cause a large proportion of the icebergs that bear red grains to melt before traveling very far into the North Atlantic. But sometimes the ocean's dynamic changes, and waters from the Gulf Stream do not travel northward in this way. During these periods, surface waters in the North Atlantic would generally be colder, permitting icebergs bearing red-stained grains to travel farther south in the North Atlantic before melting and depositing their sediment.

The onset of the so-called Little Ice Age (1300-1860), which followed the Medieval Warm Period of the eighth through tenth centuries, may

represent the most recent time that the ocean's dynamic changed in this way. If ongoing climate-history studies support Bond's hypothesis of 1,500-year cycles, scientists may establish a major natural rhythm in Earth's temperatures that could then be extrapolated into the future. Because the midpoint of the Medieval Warm Period was about A.D. 850, an extension of Bond's cycles would place the midpoint of the next warm interval in the twenty-fourth century.

12. According to the passage, which of the following is true of the rock fragments contained in the sediments studied by Bond?
- (A) The majority of them are composed of red sandstone.
  - (B) They must have reached their present location over 1,500 years ago.
  - (C) They were carried by icebergs to their present location.
  - (D) Most of them were carried to their present location during a warm period in Earth's climatic history.
  - (E) They are unlikely to have been carried to their present location during the Little Ice Age.
13. In the final paragraph of the passage (lines 47-59), the author is concerned primarily with
- (A) answering a question about Earth's climatic history
  - (B) pointing out a potential flaw in Bond's hypothesis
  - (C) suggesting a new focus for the study of ocean sediments
  - (D) tracing the general history of Earth's climate
  - (E) discussing possible implications of Bond's hypothesis





14. According to the passage, Bond hypothesized that which of the following circumstances would allow red-stained sediment grains to reach more southerly latitudes?
- Ⓐ Warm waters being pulled northward from the Gulf Stream
  - Ⓑ Climatic conditions causing icebergs to melt relatively quickly
  - Ⓒ Icebergs containing a higher proportion of iron oxide than usual
  - Ⓓ The formation of more icebergs than usual in the far north
  - Ⓔ The presence of cold surface waters in the North Atlantic
15. It can be inferred from the passage that in sediment cores from the North Atlantic's deep waters, the portions that correspond to the Little Ice Age
- Ⓐ differ very little in composition from the portions that correspond to the Medieval Warm Period
  - Ⓑ fluctuate significantly in composition between the portions corresponding to the 1300s and the portions corresponding to the 1700s
  - Ⓒ would be likely to contain a proportion of red-stained grains closer to 17 percent than to 5 percent
  - Ⓓ show a much higher proportion of red-stained grains in cores extracted from the far north of the North Atlantic than in cores extracted from further south
  - Ⓔ were formed in part as a result of Gulf Stream waters having been pulled northward



For each of Questions 16 to 19, select the **two** answer choices that when used to complete the sentence blank, fit the meaning of the sentence as a whole **and** produce completed sentences that are alike in meaning.

16. The vegetation at Stone Mountain, the best known of the large rock masses known as monadnocks, is far from \_\_\_\_\_, having been decimated by the hiking traffic.
- (A) blighted
  - (B) endangered
  - (C) picturesque
  - (D) pristine
  - (E) undisturbed
  - (F) vulnerable
17. The macromolecule RNA is common to all living beings, and DNA, which is found in all organisms except some bacteria, is almost as \_\_\_\_\_.
- (A) comprehensive
  - (B) fundamental
  - (C) inclusive
  - (D) universal
  - (E) significant
  - (F) ubiquitous
18. The ex-minister's real crime, in the eyes of his \_\_\_\_\_ political friends who subsequently abandoned him, was not so much that he was wrong as that he raised questions that must not be raised.
- (A) erstwhile
  - (B) proxy
  - (C) false
  - (D) self-styled
  - (E) onetime
  - (F) surrogate
19. Once White stepped down from a political platform, where his daring, \_\_\_\_\_ speeches provoked baying applause from audiences, he was courteous and considerate even to politicians he had just slandered in the speech.
- (A) florid
  - (B) defamatory
  - (C) calumnious
  - (D) inveigling
  - (E) timorous
  - (F) diffident



For each of Questions 20 to 25 select one answer choice unless otherwise directed.

Question 20 is based on this passage.

Line As an example of the devastation wrought on  
music publishers by the photocopier, one executive  
noted that for a recent choral festival with 1,200  
singers, the festival's organizing committee  
5 purchased only 12 copies of the music published by  
her company that was performed as part of the  
festival.

20. Which of the following, if true, most seriously weakens the support the example lends to the executive's contention that music publishers have been devastated by the photocopier?
- (A) Only a third of the 1,200 singers were involved in performing the music published by the executive's company.
  - (B) Half of the singers at the festival had already heard the music they were to perform before they began to practice for the festival.
  - (C) Because of shortages in funding, the organizing committee of the choral festival required singers to purchase their own copies of the music performed at the festival.
  - (D) Each copy of music that was performed at the festival was shared by two singers.
  - (E) As a result of publicity generated by its performance at the festival, the type of music performed at the festival became more widely known.

Questions 21 and 22 are based on this passage.

A tall tree can transport a hundred gallons of water a day from its roots deep underground to the treetop. Is this movement propelled by pulling the water from above or pushing it from below? The pull mechanism  
Line 5 has long been favored by most scientists. First proposed in the late 1800s, the theory relies on a property of water not commonly associated with fluids: its tensile strength. Instead of making a clean break, water evaporating from treetops tugs on the  
10 remaining water molecules, with that tug extending from molecule to molecule all the way down to the roots. The tree itself does not actually push or pull; all the energy for lifting water comes from the sun's evaporative power.

For the following question, consider each of the choices separately and select all that apply.

21. Which of the following statements is supported by the passage?
- (A) The pull theory is not universally accepted by scientists.
  - (B) The pull theory depends on one of water's physical properties.
  - (C) The pull theory originated earlier than did the push theory.
22. The passage provides information on each of the following EXCEPT
- (A) when the pull theory originated
  - (B) the amount of water a tall tree can transport
  - (C) the significance of water's tensile strength in the pull theory
  - (D) the role of the sun in the pull theory
  - (E) the mechanism underlying water's tensile strength



Questions 23 to 25 are based on this passage.

While the influence of British magazines in shaping public opinion predates the nineteenth century, it was during the 1800s that mass distribution became possible and an explosion in periodical readership occurred, vastly increasing magazines' opinion-shaping powers. The role of magazines as arbiters of nineteenth-century taste is seen in their depictions of the London theater. The magazines accorded some legitimacy to East End working-class theaters that mirrored the format of the fashionable West End theaters serving middle- and upper-class audiences. However, the magazines also depicted music halls—which competed for patronage with all theaters—as places where crass entertainment corrupted spectators' taste and morals. Finally, they suggested that popular demand for substandard fare created a market unfriendly to higher expressions of dramatic art.

23. The author of the passage attributes the influence of British periodicals in shaping public opinion in the nineteenth century in part to
- (A) a growing public interest in reading opinion pieces
  - (B) an increase in the relative number of readers from the middle and upper classes
  - (C) changes in the way in which magazines were distributed
  - (D) magazines' increased coverage of theater and popular entertainment
  - (E) changes in magazine format that attracted a wider readership

24. The author of the passage mentions East End working-class theaters primarily in order to
- (A) illustrate a point about the ability of magazines to sway public opinion
  - (B) contrast the kinds of entertainment presented in East End and West End theaters
  - (C) make a point about how spectators' tastes influenced the offerings at different kinds of theaters
  - (D) explain how magazines chose which kinds of entertainment to cover
  - (E) identify factors that helped make certain theaters fashionable
25. In the context in which it appears, "accorded" (line 9) most nearly means
- (A) reconciled
  - (B) revealed
  - (C) granted
  - (D) verified
  - (E) maintained

# **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  
 Quantitative Reasoning  
 Time—40 minutes  
 25 Questions

For each question, indicate the best answer, using the directions given.

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

All figures are assumed to lie in a plane unless otherwise indicated.

Geometric figures, such as lines, circles, triangles, and quadrilaterals, **are not necessarily** drawn to scale. That is, you should **not** assume that quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that lines shown as straight are actually straight, points on a line are in the order shown, and more generally, all geometric objects are in the relative positions shown. For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities by sight or by measurement.

Coordinate systems, such as  $xy$ -planes and number lines, **are** drawn to scale; therefore, you can read, estimate, or compare quantities in such figures by sight or by measurement.

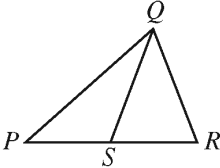
Graphical data presentations, such as bar graphs, circles graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values by sight or by measurement.

For each of Questions 1 to 9, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the following four answer choices and fill in the corresponding circle to the right of the question.

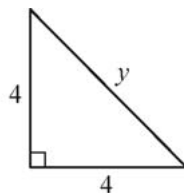
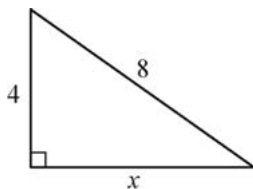
- (A) Quantity A is greater.
- (B) Quantity B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

A symbol that appears more than once in a question has the same meaning throughout the question.

	<u>Quantity A</u>	<u>Quantity B</u>	<u>Correct Answer</u>
<b>Example 1:</b>	(2)(6)	$2 + 6$	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D

			
	<u>Quantity A</u>	<u>Quantity B</u>	<u>Correct Answer</u>
<b>Example 2:</b>	$PS$	$SR$	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input checked="" type="radio"/> D
(since equal lengths cannot be assumed, even though $PS$ and $SR$ appear equal)			

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



Quantity A

Quantity B

1.  $x$   $y$  (A) (B) (C) (D)

$$(x - 2y)(x + 2y) = 4$$

Quantity A

Quantity B

2.  $x^2 - 4y^2$  8 (A) (B) (C) (D)

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

A certain recipe requires  $\frac{3}{2}$  cups of sugar and makes 2 dozen cookies. (1 dozen = 12)

Quantity A

Quantity B

3. The amount of sugar required for the same recipe to make 30 cookies 2 cups      (A) (B) (C) (D)

A power station is located on the boundary of a square region that measures 10 miles on each side. Three substations are located inside the square region.

Quantity A

Quantity B

4. The sum of the distances from the power station to each of the substations 30 miles      (A) (B) (C) (D)

$$6 < x < 7$$

$$y = 8$$

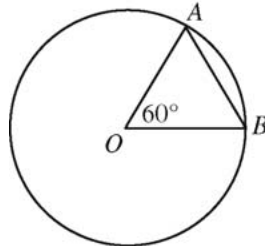
Quantity A

Quantity B

5.  $\frac{x}{y}$  0.85      (A) (B) (C) (D)



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



$O$  is the center of the circle, and the perimeter of  $\triangle AOB$  is 6.

Quantity A

Quantity B

6. The circumference of the circle

12

- (A) (B) (C) (D)

Quantity A

Quantity B

7. The standard deviation of a set of 5 different integers, each of which is between 0 and 10

The standard deviation of a set of 5 different integers, each of which is between 10 and 20

- (A) (B) (C) (D)

5 ♦ 5 ♦ 5 ♦ 5 ♦ 5 ♦ 5 ♦ 5 ♦ 5

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

$$x > 1$$

Quantity A

Quantity B

8.

$$x(x^2)^4$$

$$(x^3)^3$$

(A) (B) (C) (D)

---

$$x \neq 0$$

Quantity A

Quantity B

9.

$$|x| + |-2|$$

$$|x - 2|$$

(A) (B) (C) (D)

Questions 10 to 25 have several different formats. Unless otherwise directed, select a single answer choice. For Numeric Entry questions, follow the instructions below.

**Numeric Entry Questions**

To answer these questions, enter a number by filling in circles in a grid.

- Your answer may be an integer, a decimal, or a fraction, and it may be negative.
- Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Although fractions do not need to be reduced to lowest terms, they may need to be reduced to fit in the grid.
- Enter the exact answer unless the question asks you to round your answer.
- If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.
- Start your answer in any column, space permitting. Fill in no more than one circle in any column of the grid. Columns not needed should be left blank.
- Write your answer in the boxes at the top of the grid and fill in the corresponding circles. **You will receive credit only if the circles are filled in correctly, regardless of the number written in the boxes at the top.**

Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

	5	0	2				
−	○	○	○	○	○	○	○
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

		5	0	2			
−	○	○	○	○	○	○	○
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

Decimal answer: −4.13

	−		4	.	1	3	
−	○	○	○	○	○	○	○
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

Fraction answer:  $-\frac{2}{10}$

	−	2	/	1	0		
−	○	○	○	○	○	○	○
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

$$7x + 3y = 12$$

$$3x + 7y = 6$$

10. If  $x$  and  $y$  satisfy the system of equations above, what is the value of  $x - y$ ?

- (A)  $\frac{2}{3}$
- (B)  $\frac{3}{2}$
- (C) 1
- (D) 4
- (E) 6

**For the following question, select all the answer choices that apply.**

11. In triangle  $ABC$ , the measure of angle  $A$  is  $25^\circ$  and the measure of angle  $B$  is greater than  $90^\circ$ . Which of the following could be the measure of angle  $C$ ?

Indicate all such measures.

- (A)  $12^\circ$
- (B)  $15^\circ$
- (C)  $45^\circ$
- (D)  $50^\circ$
- (E)  $70^\circ$

12. What is the least integer  $n$  such that  $\frac{1}{2^n} < 0.001$ ?

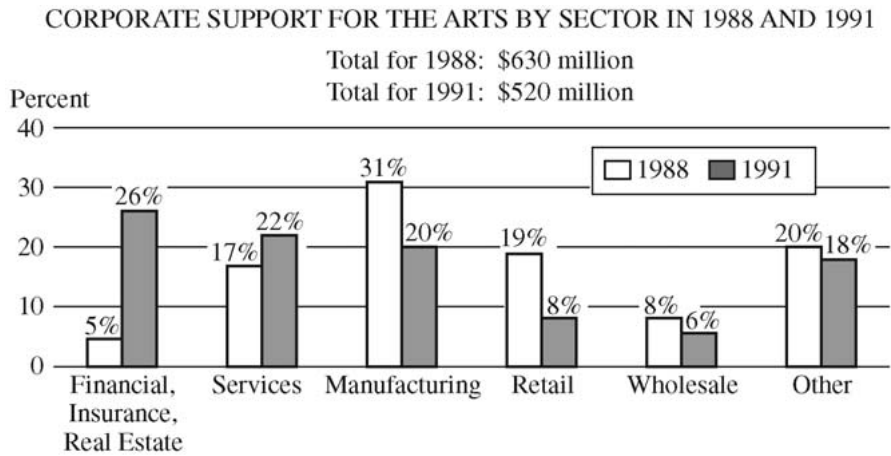
- (A) 10
- (B) 11
- (C) 500
- (D) 501
- (E) There is no such least integer.

13. In the sunshine, an upright pole 12 feet tall is casting a shadow 8 feet long. At the same time, a nearby upright pole is casting a shadow 10 feet long. If the lengths of the shadows are proportional to the heights of the poles, what is the height, in feet, of the taller pole?

- (A) 10
- (B) 12
- (C) 14
- (D) 15
- (E) 18



Questions 17 to 20 are based on the following data.



For the following question, use the grid to enter your answer.

17. The two corporate sectors that increased their support for the arts from 1988 to 1991 made a total contribution in 1991 of approximately how many million dollars?

Give your answer to the nearest 10 million dollars.

-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

million dollars

18. How many of the six corporate sectors listed each contributed more than \$60 million to the arts in both 1988 and 1991 ?

- (A) One
- (B) Two
- (C) Three
- (D) Four
- (E) Five

19. From 1988 to 1991, which corporate sector decreased its support for the arts by the greatest dollar amount?

- (A) Services
- (B) Manufacturing
- (C) Retail
- (D) Wholesale
- (E) Other

20. Of the retail sector's 1991 contribution to the arts,

$\frac{1}{4}$  went to symphony orchestras and  $\frac{1}{2}$  of the

remainder went to public television. Approximately

how many million dollars more did the retail sector

contribute to public television that year than to

symphony orchestras?

- (A) 5.2
- (B) 6.3
- (C) 10.4
- (D) 13.0
- (E) 19.5



For the following question, select all the answer choices that apply.

21. The total number of recording titles distributed by music distributors  $L$  and  $M$  is 9,300. The number of recording titles distributed by  $L$  is 7,100, and the number of recording titles distributed by  $M$  is 5,200. Which of the following statements must be true?

Indicate all such statements.

- (A) More than half of the titles distributed by  $L$  are also distributed by  $M$ .
- (B) More than half of the titles distributed by  $M$  are also distributed by  $L$ .
- (C) No titles are distributed by both  $L$  and  $M$ .
22. If  $c$  and  $d$  are positive integers and  $m$  is the greatest common factor of  $c$  and  $d$ , then  $m$  must be the greatest common factor of  $c$  and which of the following integers?
- (A)  $c + d$
- (B)  $2 + d$
- (C)  $cd$
- (D)  $2d$
- (E)  $d^2$

For the following question, use the grid to enter your answer.

23. The average (arithmetic mean) of the 11 numbers in a list is 14. If the average of 9 of the numbers in the list is 9, what is the average of the other 2 numbers?

−	.	.	.	.	.	.	.	.	.	.
0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9



24. Of the 750 participants in a professional meeting, 450 are female and  $\frac{1}{2}$  of the female and  $\frac{1}{4}$  of the male participants are less than thirty years old. If one of the participants will be randomly selected to receive a prize, what is the probability that the person selected will be less than thirty years old?

- (A)  $\frac{1}{8}$
- (B)  $\frac{1}{3}$
- (C)  $\frac{3}{8}$
- (D)  $\frac{2}{5}$
- (E)  $\frac{3}{4}$

25. In the  $xy$ -plane, what is the slope of the line whose equation is  $3x - 2y = 8$  ?

- (A)  $-4$
- (B)  $-\frac{8}{3}$
- (C)  $\frac{2}{3}$
- (D)  $\frac{3}{2}$
- (E)  $2$

**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 6  
 Quantitative Reasoning  
 Time—40 minutes  
 25 Questions

For each question, indicate the best answer, using the directions given.

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

All figures are assumed to lie in a plane unless otherwise indicated.

Geometric figures, such as lines, circles, triangles, and quadrilaterals, **are not necessarily** drawn to scale. That is, you should **not** assume that quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that lines shown as straight are actually straight, points on a line are in the order shown, and more generally, all geometric objects are in the relative positions shown. For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities by sight or by measurement.

Coordinate systems, such as  $xy$ -planes and number lines, **are** drawn to scale; therefore, you can read, estimate, or compare quantities in such figures by sight or by measurement.

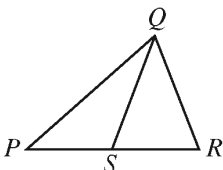
Graphical data presentations, such as bar graphs, circles graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values by sight or by measurement.

For each of Questions 1 to 9, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the following four answer choices and fill in the corresponding circle to the right of the question.

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

A symbol that appears more than once in a question has the same meaning throughout the question.

	<u>Quantity A</u>	<u>Quantity B</u>	<u>Correct Answer</u>
<b>Example 1:</b>	(2)(6)	$2 + 6$	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D

			
	<u>Quantity A</u>	<u>Quantity B</u>	<u>Correct Answer</u>
<b>Example 2:</b>	$PS$	$SR$	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D (since equal lengths cannot be assumed, even though $PS$ and $SR$ appear equal)

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

$x$  is a positive integer and  $y$  is a negative integer.

Quantity A

Quantity B

1.  $x - y$   $y - x$  (A) (B) (C) (D)
- 

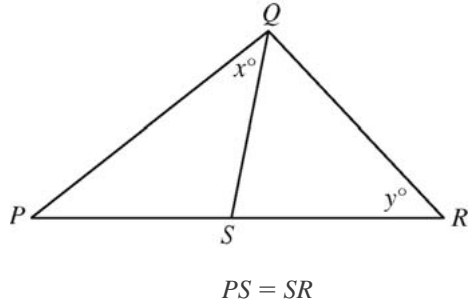
The probability that both events  $E$  and  $F$  will occur is 0.42.

Quantity A

Quantity B

2. The probability that event  $E$  will occur 0.58 (A) (B) (C) (D)

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



Quantity A

Quantity B

3.

$x$

$y$

- (A) (B) (C) (D)

$a$  and  $b$  are positive integers.

Quantity A

Quantity B

4.

$\frac{a}{b}$

$\frac{a + 3}{b + 3}$

- (A) (B) (C) (D)

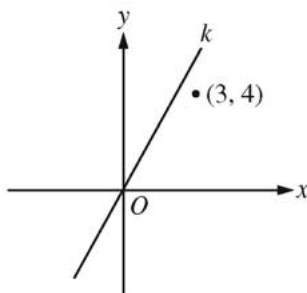
- (A) Quantity A is greater.
- (B) Quantity B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

The average (arithmetic mean) of 100 measurements is 23, and the average of 50 additional measurements is 27.

Quantity A

Quantity B

5. The average of the 150 measurements 25 (A) (B) (C) (D)



Quantity A

Quantity B

6. The slope of line  $k$  1 (A) (B) (C) (D)

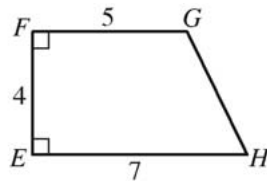
- (A) Quantity A is greater.
- (B) Quantity B is greater.
- (C) The two quantities are equal.
- (D) The relationship cannot be determined from the information given.

One of the roots of the equation  $x^2 + kx - 6 = 0$  is 3, and  $k$  is a constant.

- |    | <u>Quantity A</u> | <u>Quantity B</u> |                 |
|----|-------------------|-------------------|-----------------|
| 7. | The value of $k$  | $-1$              | (A) (B) (C) (D) |

The original price of a suit was 30 percent less than the suit's \$250 suggested retail price. The price at which the suit was sold was 20 percent less than the original price.

- |    | <u>Quantity A</u>                    | <u>Quantity B</u>                        |                 |
|----|--------------------------------------|--|-----------------|
| 8. | The price at which the suit was sold | 50% of the suit's suggested retail price | (A) (B) (C) (D) |



- |    | <u>Quantity A</u>                     | <u>Quantity B</u>                     |                 |
|----|---------------------------------------|---------------------------------------|-----------------|
| 9. | The area of rectangular region $ABCD$ | The area of trapezoidal region $EFGH$ | (A) (B) (C) (D) |

Questions 10 to 25 have several different formats. Unless otherwise directed, select a single answer choice. For Numeric Entry questions, follow the instructions below.

### Numeric Entry Questions

To answer these questions, enter a number by filling in circles in a grid.

- Your answer may be an integer, a decimal, or a fraction, and it may be negative.
- Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Although fractions do not need to be reduced to lowest terms, they may need to be reduced to fit in the grid.
- Enter the exact answer unless the question asks you to round your answer.
- If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.
- Start your answer in any column, space permitting. Fill in no more than one circle in any column of the grid. Columns not needed should be left blank.
- Write your answer in the boxes at the top of the grid and fill in the corresponding circles. **You will receive credit only if the circles are filled in correctly, regardless of the number written in the boxes at the top.**

Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

	5	0	2									
-	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9

Decimal answer: -4.13

	-		4	.	1	3						
-	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9

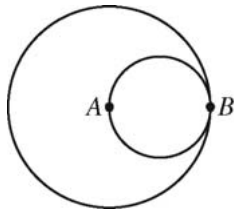
Fraction answer:  $-\frac{2}{10}$

	-	2	/	1	0							
-	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9	9	9

10. If  $j$  and  $k$  are integers and  $j - k$  is even, which of the following must be even?

- (A)  $k$
- (B)  $jk$
- (C)  $j + 2k$
- (D)  $jk + j$
- (E)  $jk - 2j$

For the following question, use the grid to enter your answer.



11. The circles shown are tangent at point  $B$ . Point  $A$  is the center of the larger circle, and line segment  $AB$  (not shown) is a diameter of the smaller circle. The area of the smaller circle is what fraction of the area of the larger circle?

			/		
⊖	0	0	0	0	0
	1	1	1	1	1
	2	2	2	2	2
	3	3	3	3	3
	4	4	4	4	4
	5	5	5	5	5
	6	6	6	6	6
	7	7	7	7	7
	8	8	8	8	8
	9	9	9	9	9

For the following question, select all the answer choices that apply.

12. Last year Kate spent between  $\frac{1}{4}$  and  $\frac{1}{3}$  of her gross income on her mortgage payments. If Kate spent \$13,470 on her mortgage payments last year, which of the following could have been her gross income last year?

Indicate all such gross incomes.

- (A) \$40,200
- (B) \$43,350
- (C) \$47,256
- (D) \$51,996
- (E) \$53,808

13. In State  $X$ , all vehicle license plates have 2 letters from the 26 letters of the alphabet followed by 3 one-digit numbers. How many different license plates can State  $X$  have if repetition of letters and numbers is allowed?

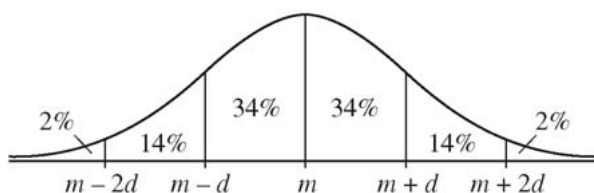
- (A) 23,400
- (B) 60,840
- (C) 67,600
- (D) 608,400
- (E) 676,000

14. If  $p$  is a negative number and  $0 < s < |p|$ , which of the following must also be a negative number?

- (A)  $(p + s)^2$
- (B)  $(p - s)^2$
- (C)  $(s - p)^2$
- (D)  $p^2 - s^2$
- (E)  $s^2 - p^2$

15. If  $\frac{1}{2^m} + \frac{1}{2^m} = \frac{1}{2^x}$ , then  $x$  expressed in terms of  $m$  is

- (A)  $\frac{m}{2}$
- (B)  $m - 1$
- (C)  $m + 1$
- (D)  $2m$
- (E)  $m^2$



16. The figure shows a normal distribution with mean  $m$  and standard deviation  $d$ , including approximate percents of the distribution in each of the six regions shown.

For a population of 800,000 subway riders, the numbers of subway trips taken per rider last January are approximately normally distributed with a mean of 56 trips and a standard deviation of 13 trips. Approximately how many of the riders took between 30 and 43 trips last January?

- (A) 60,000
- (B) 110,000
- (C) 160,000
- (D) 210,000
- (E) 270,000



Questions 17 to 20 are based on the following data.

STUDENT ENROLLMENT AT A SMALL COLLEGE

Distribution of Enrollment by Class and Gender  
Total Enrollment: 1,400

Class	Males	Females
Freshmen	303	259
Sophomores	215	109
Juniors	182	88
Seniors	160	84
Total	860	540

Percent of Total Enrollment Majoring  
in Selected Academic Areas

Area	Percent
Humanities	33%
Social sciences	30%
Physical sciences	24%

Note: No student is majoring in more than one area.

17. The ratio of the number of male freshmen to the number of female sophomores is approximately
- (A) 2 to 1  
(B) 3 to 1  
(C) 3 to 2  
(D) 4 to 1  
(E) 5 to 3
18. If the total enrollment is 12 percent greater than it was five years ago, what was the total enrollment five years ago?
- (A) 1,180  
(B) 1,192  
(C) 1,220  
(D) 1,232  
(E) 1,250
19. How many students are either juniors or males or both?
- (A) 678  
(B) 766  
(C) 948  
(D) 1,130  
(E) 1,312

**For the following question, select all the answer choices that apply.**

20. Which of the following statements must be true?  
Indicate all such statements.
- (A) The number of males majoring in physical sciences is greater than the number of females majoring in that area.
- (B) Students majoring in either social sciences or physical sciences constitute more than 50 percent of the total enrollment.
- (C) The ratio of the number of males to the number of females in the senior class is less than 2 to 1.

21. The quantities  $S$  and  $T$  are positive and are related by the equation  $S = \frac{k}{T}$ , where  $k$  is a constant. If the value of  $S$  increases by 50 percent, then the value of  $T$  decreases by what percent?
- (A) 25%  
(B)  $33\frac{1}{3}\%$   
(C) 50%  
(D)  $66\frac{2}{3}\%$   
(E) 75%
22. If  $x$  and  $y$  are the tens digit and the units digit, respectively, of the product  $725,278 \times 67,066$ , what is the value of  $x + y$ ?
- (A) 12  
(B) 10  
(C) 8  
(D) 6  
(E) 4
23. A developer has land that has  $x$  feet of lake frontage. The land is to be subdivided into lots, each of which is to have either 80 feet or 100 feet of lake frontage. If  $\frac{1}{9}$  of the lots are to have 80 feet of frontage each and the remaining 40 lots are to have 100 feet of frontage each, what is the value of  $x$ ?
- (A) 400  
(B) 3,200  
(C) 3,700  
(D) 4,400  
(E) 4,760



# Appendix A

## Analytical Writing Scoring Guides and Score Level Descriptions

### GRE Scoring Guide: Analyze an Issue

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#### Score 6

In addressing the specific task directions, a 6 response presents a cogent, well-articulated analysis of the issue and conveys meaning skillfully.

A typical response in this category:

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

#### Score 5

In addressing the specific task directions, a 5 response presents a generally thoughtful, well-developed analysis of the issue and conveys meaning clearly.

A typical response in this category:

- presents a clear and well-considered position on the issue in accordance with the assigned task
  - develops the position with logically sound reasons and/or well-chosen examples
  - is focused and generally well organized, connecting ideas appropriately
  - conveys 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

In addressing the specific task directions, a 4 response presents a competent analysis of the issue and conveys meaning with acceptable clarity.

A typical response in this category:

- presents a clear position on the issue in accordance with the assigned task
  - develops the position with relevant reasons and/or examples
  - is adequately focused and organized
  - 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 response demonstrates some competence in addressing the specific task directions, in analyzing the issue and in conveying meaning, but is obviously flawed.

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

- is vague or limited in addressing the specific task directions and/or in presenting or developing a position on the issue
  - is weak in the use of relevant reasons or examples or relies largely on unsupported claims
  - 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
-

## GRE Scoring Guide: Analyze an Issue (continued)

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### Score 2

A 2 response largely disregards the specific task directions and/or demonstrates serious weaknesses in analytical writing.

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

- is unclear or seriously limited in addressing the specific task directions and/or in presenting or developing a position on the issue
  - provides few, if any, relevant reasons or examples in support of its claims
  - is unfocused and/or disorganized
  - has serious problems in 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 response demonstrates fundamental deficiencies in analytical writing.

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

- provides little or no evidence of understanding the issue
  - provides little evidence of the ability to develop an organized response (i.e., is extremely disorganized and/or extremely brief)
  - 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

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

## GRE Scoring Guide: Analyze an Argument

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### Score 6

In addressing the specific task directions, a 6 response presents a cogent, well-articulated examination of the argument and conveys meaning skillfully.

A typical response in this category:

- clearly identifies aspects of the argument relevant to the assigned task and examines them insightfully
- develops ideas cogently, organizes them logically and connects them with clear transitions
- provides compelling and thorough support for its main points
- conveys ideas fluently and precisely, using effective vocabulary and sentence variety
- demonstrates facility with the conventions of standard written English (i.e., grammar, usage and mechanics) but may have minor errors

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### Score 5

In addressing the specific task directions, a 5 response presents a generally thoughtful, well-developed examination of the argument and conveys meaning clearly.

A typical response in this category:

- clearly identifies aspects of the argument relevant to the assigned task and examines them in a generally perceptive way
  - develops ideas clearly, organizes them logically and connects them with appropriate transitions
  - offers generally thoughtful and thorough support for its main points
  - conveys ideas clearly and well, using appropriate vocabulary and sentence variety
  - demonstrates facility with the conventions of standard written English but may have minor errors
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### Score 4

In addressing the specific task directions, a 4 response presents a competent examination of the argument and conveys meaning with acceptable clarity.

A typical response in this category:

- identifies and examines aspects of the argument relevant to the assigned task but may also discuss some extraneous points
- develops and organizes ideas satisfactorily, but may not connect them with transitions
- supports its main points adequately, but may be uneven in its support
- demonstrates sufficient control of language to convey ideas with reasonable clarity
- generally demonstrates control of the conventions of standard written English, but may have some errors

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### Score 3

A 3 response demonstrates some competence in addressing the specific task directions, in examining the argument and in conveying meaning, but is obviously flawed.

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

- does not identify or examine most of the aspects of the argument relevant to the assigned task, although some relevant examination of the argument is present
  - mainly discusses 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 its main points
  - 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
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## **GRE Scoring Guide: Analyze an Argument (continued)**

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### **Score 2**

A 2 response largely disregards the specific task directions and/or demonstrates serious weaknesses in analytical writing.

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

- does not present an examination based on logical analysis, but may instead present the writer's own views on the subject; does not follow the directions for the assigned task
  - does not develop ideas, or is poorly organized and illogical
  - provides little, if any, relevant or reasonable support for its main points
  - has serious problems in 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 response demonstrates fundamental deficiencies in analytical writing.

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

- provides little or no evidence of understanding the argument
  - provides little evidence of the ability to develop an organized response (i.e., is extremely disorganized and/or extremely brief)
  - 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**

A typical response in this category is 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.

## Analytical Writing 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 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.

**SCORE 1 and 0.5** – Displays fundamental deficiencies in analytical writing. The writing is fundamentally flawed in at least one of the following ways: content that is extremely confusing or mostly irrelevant to the assigned tasks; little or no development; severe and pervasive errors that result in incoherence.

**SCORE 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

### Sample Analytical Writing Topics, Scored Sample Essay Responses and Reader Commentary

#### Issue Task Essay Responses and Reader Commentary

##### Sample Issue Task

As people rely more and more on technology to solve problems, the ability of humans to think for themselves will surely deteriorate.

Discuss the extent to which you agree or disagree with the statement and explain your reasoning for the position you take. In developing and supporting your position, you should consider ways in which the statement might or might not hold true and explain how these considerations shape your position.

**NOTE:** All responses are reproduced exactly as written, including errors, misspellings, etc., if any.

##### Essay Response – Score 6

The statement linking technology negatively with free thinking plays on recent human experience over the past century. Surely there has been no time in history where the lived lives of people have changed more dramatically. A quick reflection on a typical day reveals how technology has revolutionized the world. Most people commute to work in an automobile that runs on an internal combustion engine. During the workday, chances are high that the employee will interact with a computer that processes information on silicon bridges that are .09 microns wide. Upon leaving home, family members will be reached through wireless networks that utilize satellites orbiting the earth. Each of these common occurrences could have been inconceivable at the turn of the 19th century.

The statement attempts to bridge these dramatic changes to a reduction in the ability for humans to think for themselves. The assumption is that an increased reliance on technology negates the need for people to think creatively to solve previous quandaries. Looking back at the introduction, one could argue that without a car, computer, or mobile phone, the hypothetical worker would need to find alternate methods of transport, information processing and

communication. Technology short circuits this thinking by making the problems obsolete.

However, this reliance on technology does not necessarily preclude the creativity that marks the human species. The prior examples reveal that technology allows for convenience. The car, computer and phone all release additional time for people to live more efficiently. This efficiency does not preclude the need for humans to think for themselves. In fact, technology frees humanity to not only tackle new problems, but may itself create new issues that did not exist without technology. For example, the proliferation of automobiles has introduced a need for fuel conservation on a global scale. With increasing energy demands from emerging markets, global warming becomes a concern inconceivable to the horse-and-buggy generation. Likewise dependence on oil has created nation-states that are not dependent on taxation, allowing ruling parties to oppress minority groups such as women. Solutions to these complex problems require the unfettered imaginations of maverick scientists and politicians.

In contrast to the statement, we can even see how technology frees the human imagination. Consider how the digital revolution and the advent of the internet has allowed for an unprecedented exchange of ideas. WebMD, a popular internet portal for medical information, permits patients to self research symptoms for a more informed doctor visit. This exercise opens pathways of thinking that were previously closed off to the medical layman. With increased interdisciplinary interactions, inspiration can arrive from the most surprising corners. Jeffrey Sachs, one of the architects of the UN Millenium Development Goals, based his ideas on emergency care triage techniques. The unlikely marriage of economics and medicine has healed tense, hyperinflation environments from South America to Eastern Europe.

This last example provides the most hope in how technology actually provides hope to the future of humanity. By increasing our reliance on technology, impossible goals can now be achieved. Consider how the late 20th century witnessed the complete elimination of smallpox. This disease had ravaged the human race since prehistorical days, and yet with the technology of vaccines, free thinking humans dared to imagine a world free of smallpox. Using technology, battle plans were drawn out, and smallpox was systematically targeted and eradicated.

Technology will always mark the human experience, from the discovery of fire to the implementation of nanotechnology. Given the history of the human race, there will be no limit to the number of problems, both new and old, for us to tackle. There is no need to retreat to a Luddite attitude to new things, but rather embrace a hopeful posture to the possibilities that technology provides for new avenues of human imagination.

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

The author of this essay stakes out a clear and insightful position on the issue and follows the specific instructions by presenting reasons to support that position. The essay cogently argues that technology does not decrease our ability to think for ourselves, but merely provides “additional time for people to live more efficiently.” In fact, the problems that have developed alongside the growth of technology (pollution, political unrest in oil-producing nations) actually call for more creative thinking, not less.

In further examples, the essay shows how technology allows for the linking of ideas that may never have been connected in the past (like medicine and economic models), pushing people to think in new ways. Examples are persuasive and fully developed; reasoning is logically sound and well supported.

Ideas in the essay are connected logically, with effective transitions used both between paragraphs (“However” or “In contrast to the statement”) and within paragraphs. Sentence structure is varied and complex and the essay clearly demonstrates facility with the “conventions of standard written English (i.e., grammar, usage and mechanics)” (see “Analyze an Issue” Scoring Guide on pages 92–93), with only minor errors appearing. Thus, this essay meets all the requirements for receiving a top score, a 6.

#### **Essay Response – Score 5**

Surely many of us have expressed the following sentiment, or some variation on it, during our daily commutes to work: “People are getting so stupid these days!” Surrounded as we are by striding and strident automatons with cell phones glued to their ears, PDA’s gripped in their palms, and omniscient, omnipresent CNN gleaming in their eyeballs, it’s tempting to believe that technology has isolated and infantilized us, essentially transforming us into dependent, conformist morons best equipped to sideswipe one another in our SUV’s.

Furthermore, hanging around with the younger, pre-commute generation, whom tech-savviness seems to have rendered lethal, is even less reassuring. With “Teen People” style trends shooting through the air from tiger-striped PDA to zebra-striped PDA, and with the latest starlet gossip zipping from juicy Blackberry to teeny, turbo-charged cell phone, technology seems to support young people’s worst tendencies to follow the crowd. Indeed, they have seemingly evolved into intergalactic conformity police. After all, today’s tech-aided teens are, courtesy of authentic, hands-on video games, literally trained to kill; courtesy of chat and instant text messaging, they have their own language; they even have tiny cameras to efficiently photodocument your fashion blunders! Is this adolescence, or paparazzi terrorist training camp?

With all this evidence, it’s easy to believe that tech trends and the incorporation of technological wizardry into our everyday lives have served mostly to enforce conformity, promote dependence, heighten consumerism and materialism, and generally create a culture that values self-absorption and personal entitlement over cooperation and collaboration. However, I argue that we are merely in the inchoate stages of learning to live with technology while still loving one another. After all, even given the examples provided earlier in this essay, it seems clear that technology hasn’t impaired our thinking and problem-solving capacities. Certainly it has incapacitated our behavior and manners; certainly our values have taken a severe blow. However, we are inarguably more efficient in our badness these days. We’re effective worker bees of ineffectiveness!

If technology has so increased our senses of self-efficacy that we can become veritable agents of the awful, virtual CEO’s of selfishness, certainly it can be beneficial. Harnessed correctly, technology can improve our ability to think and act for ourselves. The first challenge is to figure out how to provide technology users with some direly-needed direction.

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

The language of this essay clearly illustrates both its strengths and weaknesses. The flowery and sometimes uncannily keen descriptions are often used to powerful effect, but at other times this descriptive language results in errors in syntax. See, for example, the problems of parallelism in the second-to-last sentence of paragraph 2 (“After all, today’s tech-aided teens ...”).

There is consistent evidence of facility with syntax and complex vocabulary (“Surrounded as we are by striding and strident automatons with cell phones glued to their ears, PDA’s gripped in their palms, and omniscient, omnipresent CNN gleaming in their eyeballs, it’s tempting to believe...”). However, such lucid prose is often countered by an over-reliance on abstractions and tangential reasoning. For example, what does the fact that video games “literally train [teens] to kill” have to do with the use or deterioration of thinking abilities?

Because this essay takes a complex approach to the issue (arguing, in effect, that technology neither enhances nor reduces our ability to think for ourselves, but can do one or the other, depending on the user) and because the author makes use of “appropriate vocabulary and sentence variety” (see “Analyze an Issue” Scoring Guide on page 92), a score of 5 is appropriate.

#### **Essay Response – Score 4**

In all actuality, I think it is more probable that our bodies will surely deteriorate long before our minds do in any significant amount. Who can’t say that technology has made us lazier, but that’s the key word, lazy, not stupid. The ever increasing amount of technology that we incorporate into our daily lives makes people think and learn every day, possibly more than ever before. Our abilities to think, learn, philosophize, etc. may even reach limits never dreamed of before by average people. Using technology to solve problems will continue to help us realize our potential as a human race.

If you think about it, using technology to solve more complicating problems gives humans a chance to expand their thinking and learning, opening up whole new worlds for many people. Many of these people are glad for the chance to expand their horizons by learning more, going to new places, and trying new things. If it wasn’t for the invention of new technological devices, I wouldn’t be sitting at this computer trying to philosophize about technology. It would be extremely hard for children in much poorer countries to learn and think for themselves without the invention of the internet. Think what an impact the printing press, a technologically superior machine at the time, had on the ability of the human race to learn and think.

Right now we are seeing a golden age of technology, using it all the time during our every day lives. When we get up there’s instant coffee and the microwave and all these great things that help us get ready for our day. But we aren’t allowing our minds to deteriorate by using them, we are only making things easier for ourselves and saving time for other important things in our days. Going off to school or work in our cars instead of a horse and buggy. Think of the brain power and genius that was used to come up with that single invention that has changed the way we move across this globe.

Using technology to solve our continually more complicated problems as a human race is definitely a good thing. Our ability to think for ourselves isn’t deteriorating, it’s continuing to grow, moving on to higher thought functions and more ingenious ideas. The ability to use what technology we have is an example

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

This essay meets all the criteria of a level-4 essay. The writer develops a clear position (“Using technology to solve our problems will continue to help us realize our potential as a human race”). The position is then developed with relevant reasons (“using technology to solve more complicat[ed] problems gives humans a chance to expand their thinking and learning” and “we are seeing a golden age of technology”).

Point 1, “using technology,” is supported with the simple but relevant notion that technology allows us access to information and abilities to which we would not normally have access. Similarly, point 2, the “golden age,” is supported by the basic description of our technologically saturated social condition. Though the overall development and organization of the essay does suffer from an occasional misdirection (see paragraph 3’s abrupt progression from coffee pots to the benefits of technology to cars), the essay as a whole flows smoothly and logically from one idea to the next.

It is useful to compare this essay to the level-3 essay presented next. Though both essays entail some surface-level discussion and often fail to probe deeply into the issue, this writer does take the analysis a step further. In paragraph 2, the distinction between this essay and the next one (the level-3 response) can most clearly be seen. To support the notion that advances in technology actually help increase thinking ability, the writer draws a clever parallel between the

promise of modern, sophisticated technology (computer) and the actual “impact” of equally “promising” and pervasive technologies of the past (printing press).

Like the analysis, the language in this essay clearly meets the requirements for a score of 4. The writer displays sufficient control of language and the conventions of standard written English. The preponderance of mistakes are of a cosmetic nature (“trying to solve more complicating problems.”) There is a sentence fragment (“Going off ...”) along with a comma splice (“Our ability ... isn’t deteriorating, it’s continuing to grow ...”) in paragraph 3. However, these errors are minor and do not interfere with the clarity of the ideas being presented.

### Essay Response – Score 3

There is no current proof that advancing technology will deteriorate the ability of humans to think. On the contrary, advancements in technology had advanced our vast knowledge in many fields, opening opportunities for further understanding and achievement. For example, the problem of debilitating illnesses and diseases such as alzheimer’s disease is slowing being solved by the technological advancements in stem cell research. The future ability of growing new brain cells and the possibility to reverse the onset of alzheimer’s is now becoming a reality. This shows our initiative as humans to better our health demonstrates greater ability of humans to think.

One aspect where the ability of humans may initially be seen as an example of deteriorating minds is the use of internet and cell phones. In the past humans had to seek out information in many different environments and aspects of life. Now humans can sit in a chair and type anything into a computer and get an answer. Our reliance on this type of technology can be detrimental if not regulated and regularly substituted for other information sources such as human interactions and hands on learning. I think if humans understand that we should not have such a reliance on computer technology, that we as a species will advance further by utilizing the opportunity of computer technology as well as the other sources of information outside of a computer. Supplementing our knowledge with internet access is surely a way for technology to solve problems while continually advancing the human race.

### Reader Commentary for Essay Response – Score 3

This essay never moves beyond a superficial discussion of the issue. The writer attempts to develop two points: that advancements in technology have progressed our knowledge in many fields and that supplementing rather than relying on technology is “surely a way for technology to solve problems while continually advancing the human race.” Each point, then, is developed with relevant but insufficient evidence. In discussing the potential of technology to advance knowledge in many fields (a broad subject, rife with possible examples), the writer uses only one limited and very brief example from a specific field (medicine and stem-cell research).

Development of the second point is hindered by a lack of specificity and organization. The writer creates what might be best described as an outline. The writer cites a need for regulation/supplementation and warns of the detriment of over-reliance upon technology. However, the explanation of both the problem and solution is vague and limited (“Our reliance ... can be detrimental. If humans understand that we should not have such a reliance ... we will advance further”). There is neither explanation of consequences nor clarification of what is meant by “supplementing.” This second paragraph is a series of generalizations that are loosely connected and lack a much-needed grounding.

In the essay, there are some minor language errors and a few more serious flaws (e.g., “The future ability of growing new brain cells” or “One aspect where the ability of humans may initially be seen as an example of deteriorating minds”). Despite the accumulation of such flaws, the writer’s meaning is generally clear. Because of its limited development, however, this essay earns a score of 3.

### Essay Response – Score 2

In recent centuries, humans have developed the technology very rapidly, and you may accept some merit of it, and you may see a distortion in society occurred by it. To be lazy for human in some meaning is one of the fashion issues in thesedays. There are many symptoms and resons of it. However, I can not agree with the statement that the technology make humans to be reluctant to thinkng thoroughly.

Of course, you can see the phenomena of human laziness along with developed technology in some place. However, they would happen in specific condition, not general. What makes human to be

laze of thinking is not merely technology, but the the tendency of human that they treat them as a magic stick and a black box. Not understanding the aims and theory of them causes the disapproval problems.

The most important thing to use the thechnology, regardless the new or old, is to comprehend the fundamental idea of them, and to adapt suit tech to tasks in need. Even if you recognize a method as a all-mighty and it is extremely over-spec to your needs, you can not see the result you want. In this procedure, humans have to consider as long as possible to acquire adequate functions. Therefore, humans can not escape from using their brain.

In addition, the technology as it is do not vain automatically, the is created by humans. Thus, the more developed tech and the more you want a convenient life, the more you think and emmit your creativity to breakthrough some banal method sarcastically.

Consequently, if you are not passive to the new tech, but offensive to it, you would not lose your ability to think deeply. Furthermore, you may improve the ability by adopting it.

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

The language of this essay is what most clearly links it to the score of 2. Amidst sporadic moments of clarity, this essay is marred by serious errors in grammar, usage and mechanics that often interfere with meaning. It is unclear what the writer means when he/she states, “To be lazy for human in some meaning is one of the fashion issues in thesedays,” or “to adapt suit tech to tasks in need.”

Despite such severe flaws, the writer has made an obvious attempt to respond to the prompt (“I can not agree with the statement that the technology make humans to be reluctant to thinking thoroughly”) as well as an unclear attempt to support such an assertion (“Not understanding the aims and theory of them [technology] causes the disapproval problems” and “The most important thing to use the thechnology ... is to comprehend the fundamental idea of them”). On the whole, the essay displays a seriously flawed but not fundamentally deficient attempt to develop and support its claims.

(NOTE: In this specific case, the analysis is tied directly to the language. As the language falters, so too does the analysis.)

#### **Essay Response – Score 1**

Humans have invented machines but they have forgot it and have started everything technically so clearly their thinking process is deteriorating.

#### **Reader Commentary for Essay Response – Score 1**

The essay is clearly on topic, as evidenced by the writer’s usage of the more significant terms from the prompt: “technically” (technologically), “humans,” “thinking” (think) and “deteriorating” (deteriorate). Such usage is the only clear evidence of understanding. Meaning aside, the brevity of the essay (one sentence) clearly indicates the writer’s inability to develop a response that follows the specific instructions given (“Discuss the extent to which you agree or disagree with the statement above and explain your reasoning for the position you take”).

The language, too, is clearly level 1, as the sentence fails to achieve coherence. The coherent phrases in this one-sentence response are those tied to the prompt: “Humans have invented machines” and “their thinking process is deteriorating.” Otherwise, the point being made is unclear.

## **Argument Task Essay Responses and Reader Commentary**

### **Sample Argument Task**

In surveys Mason City residents rank water sports (swimming, boating and fishing) among their favorite recreational activities. The Mason River flowing through the city is rarely used for these pursuits, however, and the city park department devotes little of its budget to maintaining riverside recreational facilities. For years there have been complaints from residents about the quality of the river’s water and the river’s smell. In response, the state has recently announced plans to clean up Mason River. Use of the river for water sports is therefore sure to increase. The city government should for that reason devote more money in this year’s budget to riverside recreational facilities.

Write a response in which you examine the stated and/or unstated assumptions of the argument. Be sure to explain how the argument depends on the assumptions and what the implications are if these assumptions prove unwarranted.

**NOTE: All responses are reproduced exactly as written, including errors, misspellings, etc., if any.**

## Essay Response – Score 6

While it may be true that the Mason City government ought to devote more money to riverside recreational facilities, this author's argument does not make a cogent case for increased resources based on river use. It is easy to understand why city residents would want a cleaner river, but this argument is rife with holes and assumptions, and thus, not strong enough to lead to increased funding.

Citing surveys of city residents, the author reports city resident's love of water sports. It is not clear, however, the scope and validity of that survey. For example, the survey could have asked residents if they prefer using the river for water sports or would like to see a hydroelectric dam built, which may have swayed residents toward river sports. The sample may not have been representative of city residents, asking only those residents who live upon the river. The survey may have been 10 pages long, with 2 questions dedicated to river sports. We just do not know. Unless the survey is fully representative, valid, and reliable, it can not be used to effectively back the author's argument.

Additionally, the author implies that residents do not use the river for swimming, boating, and fishing, despite their professed interest, because the water is polluted and smelly. While a polluted, smelly river would likely cut down on river sports, a concrete connection between the resident's lack of river use and the river's current state is not effectively made. Though there have been complaints, we do not know if there have been numerous complaints from a wide range of people, or perhaps from one or two individuals who made numerous complaints. To strengthen his/her argument, the author would benefit from implementing a normed survey asking a wide range of residents why they do not currently use the river.

Building upon the implication that residents do not use the river due to the quality of the river's water and the smell, the author suggests that a river clean up will result in increased river usage. If the river's water quality and smell result from problems which can be cleaned, this may be true. For example, if the decreased water quality and aroma is caused by pollution by factories along the river, this conceivably could be remedied. But if the quality and aroma results from the natural mineral deposits in the water or surrounding rock, this may not be true. There are some bodies of water which emit a strong smell of sulphur due to the geography of the area. This is not

something likely to be affected by a clean-up. Consequently, a river clean up may have no impact upon river usage. Regardless of whether the river's quality is able to be improved or not, the author does not effectively show a connection between water quality and river usage.

A clean, beautiful, safe river often adds to a city's property values, leads to increased tourism and revenue from those who come to take advantage of the river, and a better overall quality of life for residents. For these reasons, city government may decide to invest in improving riverside recreational facilities. However, this author's argument is not likely significantly persuade the city government to allocate increased funding.

## Reader Commentary for Essay Response – Score 6

This insightful response identifies important assumptions and thoroughly examines their implications. The proposal to spend more on riverside recreational facilities rests on several questionable assumptions, namely:

- that the survey provides a reliable basis for budget planning
- that the river's pollution and odor are the only reasons for its limited recreational use
- that efforts to clean the water and remove the odor will be successful

By showing that each assumption is highly suspect, this essay demonstrates the weakness of the entire argument. For example, paragraph 2 points out that the survey might not have used a representative sample, might have offered limited choices, and might have contained very few questions on water sports.

Paragraph 3 examines the tenuous connection between complaints and limited use of the river for recreation. Complaints about water quality and odor may be coming from only a few people and, even if such complaints are numerous, other completely different factors may be much more significant in reducing river usage. Finally, paragraph 4 explains that certain geologic features may prevent effective river clean-up. Details such as these provide compelling support.

In addition, careful organization ensures that each new point builds upon the previous ones. For example, note the clear transitions at the beginning of paragraphs 3 and 4, as well as the logical sequence of sentences within paragraphs (specifically paragraph 4).

Although this essay does contain minor errors, it still conveys ideas fluently. Note the effective word choices (e.g., “rife with . . . assumptions” and “may have swayed residents”). In addition, sentences are not merely varied; they also display skillful embedding of subordinate elements. For example, note the sustained parallelism in the first sentence of the concluding paragraph.

Since this response offers cogent examination of the argument and conveys meaning skillfully, it earns a score of 6.

### Essay Response – Score 5

The author of this proposal to increase the budget for Mason City riverside recreational facilities offers an interesting argument but to move forward on the proposal would definitely require more information and thought. While the correlations stated are logical and probable, there may be hidden factors that prevent the City from diverting resources to this project.

For example, consider the survey rankings among Mason City residents. The thought is that such high regard for water sports will translate into usage. But, survey responses can hardly be used as indicators of actual behavior. Many surveys conducted after the winter holidays reveal people who list exercise and weight loss as a top priority. Yet every profession does not equal a new gym membership. Even the wording of the survey results remain ambiguous and vague. While water sports may be among the residents’ favorite activities, this allows for many other favorites. What remains unknown is the priorities of the general public. Do they favor these water sports above a softball field or soccer field? Are they willing to sacrifice the municipal golf course for better riverside facilities? Indeed the survey hardly provides enough information to discern future use of improved facilities.

Closely linked to the surveys is the bold assumption that a cleaner river will result in increased usage. While it is not illogical to expect some increase, at what level will people begin to use the river? The answer to this question requires a survey to find out the reasons our residents use or do not use the river. Is river water quality the primary limiting factor to usage or the lack of docks and piers? Are people more interested in water sports than the recreational activities that they are already engaged in? These questions will help the city government forecast how

much river usage will increase and to assign a proportional increase to the budget.

Likewise, the author is optimistic regarding the state promise to clean the river. We need to hear the source of the voices and consider any ulterior motives. Is this a campaign year and the plans a campaign promise from the state representative? What is the timeline for the clean-up effort? Will the state fully fund this project? We can imagine the misuse of funds in renovating the riverside facilities only to watch the new buildings fall into dilapidation while the state drags the river clean-up.

Last, the author does not consider where these additional funds will be diverted from. The current budget situation must be assessed to determine if this increase can be afforded. In a sense, the City may not be willing to draw money away from other key projects from road improvements to schools and education. The author naively assumes that the money can simply appear without forethought on where it will come from.

Examining all the various angles and factors involved with improving riverside recreational facilities, the argument does not justify increasing the budget. While the proposal does highlight a possibility, more information is required to warrant any action.

### Reader Commentary for Essay Response – Score 5

Each paragraph in the body of this perceptive essay identifies and examines an unstated assumption that is crucial to the argument. The major assumptions discussed are:

- that a survey can accurately predict behavior
- that cleaning the river will, in itself, increase recreational usage
- that state plans to clean the river will actually be realized
- that Mason City can afford to spend more on riverside recreational facilities

Support within each paragraph is both thoughtful and thorough. For example, paragraph 2 points out vagueness in the wording of the survey: Even if water sports rank *among* the favorite recreational activities of Mason City residents, other sports may still be much more popular. Thus, if the first assumption proves unwarranted, the argument to fund riverside facilities—rather than soccer fields or golf courses—becomes much weaker. Paragraph 4 considers several reasons why river clean-up plans may not be successful (the plans may be nothing more than campaign

promises or funding may not be adequate). Thus, the weakness of the third assumption undermines the argument that river recreation will increase and riverside improvements will be needed at all.

Instead of dismissing each assumption in isolation, this response places them in a logical order and considers their connections. Note the appropriate transitions between and within paragraphs, clarifying the links among the assumptions (e.g., “Closely linked to the surveys ...” or “The answer to this question requires ...”).

Along with strong development, this response also displays facility with language. Minor errors in punctuation are present, but word choices are apt and sentences suitably varied in pattern and length. The response uses a number of rhetorical questions, but the implied answers are always clear enough to support the points being made.

Thus, the response satisfies all requirements for a score of 5, but its development is not thorough or compelling enough for a 6.

#### **Essay Response – Score 4**

The problem with the argument is the assumption that if the Mason River were cleaned up, that people would use it for water sports and recreation. This is not necessarily true, as people may rank water sports among their favorite recreational activities, but that does not mean that those same people have the financial ability, time or equipment to pursue those interests.

However, even if the writer of the argument is correct in assuming that the Mason River will be used more by the city’s residents, the argument does not say why the recreational facilities need more money. If recreational facilities already exist along the Mason River, why should the city allot more money to fund them? If the recreational facilities already in existence will be used more in the coming years, then they will be making more money for themselves, eliminating the need for the city government to devote more money to them.

According to the argument, the reason people are not using the Mason River for water sports is because of the smell and the quality of water, not because the recreational facilities are unacceptable.

If the city government allotted more money to the recreational facilities, then the budget is being cut from some other important city project. Also, if the assumptions proved unwarranted, and more people

did not use the river for recreation, then much money has been wasted, not only the money for the recreational facilities, but also the money that was used to clean up the river to attract more people in the first place.

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

This competent response identifies some important unstated assumptions:

- that cleaning up the Mason River will lead to increased recreational use
- that existing facilities along the river need more funding

Paragraph 1 offers reasons why the first assumption is questionable (e.g., residents may not have the necessary time or money for water sports). Similarly, paragraphs 2 and 3 explain that riverside recreational facilities may already be adequate and may, in fact, produce additional income if usage increases. Thus, the response is adequately developed and satisfactorily organized to show how the argument depends on questionable assumptions.

However, this essay does not rise to a score of 5 because it fails to consider several other unstated assumptions (e.g., that the survey is reliable or that the efforts to clean the river will be successful). Furthermore, the final paragraph makes some extraneous, unsupported assertions of its own. Mason City may actually have a budget surplus so that cuts to other projects will not be necessary, and cleaning the river may provide other real benefits even if it is not used more for water sports.

This response is generally free of errors in grammar and usage and displays sufficient control of language to support a score of 4.

#### **Essay Response – Score 3**

Surveys are created to speak for the people; however, surveys do not always speak for the whole community. A survey completed by Mason City residents concluded that the residents enjoy water sports as a form of recreation. If that is so evident, why has the river not been used? The blame can not be solely placed on the city park department. The city park department can only do as much as they observe. The real issue is not the residents use of the river, but their desire for a more pleasant smell and a more pleasant sight. If the city government cleans the river, it might take years for the smell to go away. If the budget is changed to accommodate the clean up



of the Mason River, other problems will arise. The residents will then begin to complain about other issues in their city that will be ignored because of the great emphasis being placed on Mason River. If more money is taken out of the budget to clean the river an assumption can be made. This assumption is that the budget for another part of city maintenance or building will be tapped into to. In addition, to the budget being used to clean up Mason River, it will also be allocated in increasing riverside recreational facilities. The government is trying to appease its residents, and one can warrant that the role of the government is to please the people. There are many assumptions being made; however, the government can not make the assumption that people want the river to be cleaned so that they can use it for recreational water activities. The government has to realize the long term effects that their decision will have on the monetary value of their budget.

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

Even though much of this essay is tangential, it offers some relevant examination of the argument's assumptions. The early sentences mention a questionable assumption (that the survey results are reliable) but do not explain how the survey might have been flawed. Then the response drifts to irrelevant matters—a defense of the city park department, a prediction of budget problems and the problem of pleasing city residents.

Some statements even introduce unwarranted assumptions that are not part of the original argument (e.g., “The residents will then begin to complain about other issues” and “This assumption is that the budget for another part of city maintenance or building will be tapped into”). Near the end, the response does correctly note that city government should not assume that residents want to use the river for recreation. Hence, the proposal to increase funding for riverside recreational facilities may not be justified.

In summary, the language in this response is reasonably clear, but its examination of unstated assumptions remains limited and therefore the essay earns a score of 3.

### **Essay Response – Score 2**

This statement looks like logical, but there are some wrong sentences in it which is not logical.

First, this statement mentions raking water sports as their favorite recreational activities at the first sentence. However, it seems to have a relation between

the first sentence and the sentence which mentions that increase the quality of the river's water and the river's smell. This is a wrong cause and result to solve the problem.

Second, as a response to the complaints from residents, the state plan to clean up the river. As a result, the state expects that water sports will increase. When you look at two sentences, the result is not appropriate for the cause.

Third, the last statement is the conclusion. However, even though residents rank water sports, the city government might devote the budget to another issue. This statement is also a wrong cause and result.

In summary, the statement is not logical because there are some errors in it. The supporting sentences are not strong enough to support this issue.

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

Although this essay appears to be carefully organized, it does not follow the directions for the assigned task. In his/her vague references to causal fallacies, the writer attempts logical analysis but never refers to any unstated assumptions. Furthermore, several errors in grammar and sentence structure interfere with meaning (e.g., “This statement looks like logical, but there are some wrong sentences in it which is not logical”).

Because this response “does not follow the directions for the assigned task” and contains errors in sentence structure and logical development, it earns a score of 2.

### **Essay Response – Score 1**

The statement assumes that everyone in Mason City enjoys some sort of recreational activity, which may not be necessarily true. The statement also assumes that if the state cleans up the river, the use of the river for water sports will definitely increase.

### **Reader Commentary for Essay Response – Score 1**

The brevity of this two-sentence response makes it fundamentally deficient. Sentence 1 states an assumption that is actually not present in the argument, and sentence 2 correctly states an assumption but provides no discussion of its implications. Although the response may begin to address the assigned task, it offers no development. As such, it clearly “provides little evidence of the ability to develop an organized response and is extremely brief” and should earn a score of 1.

# Appendix C

## Practice Test Analytical Writing Topics, Scored Sample Essay Responses and Reader Commentary

### Issue Task Essay Responses and Reader Commentary

#### Practice Test Issue Task

“A nation should require all of its students to study the same national curriculum until they enter college.”

Write a response in which you discuss the extent to which you agree or disagree with the recommendation and explain your reasoning for the position you take. In developing and supporting your position, describe specific circumstances in which adopting the recommendation would or would not be advantageous and explain how these examples shape your position.

**NOTE: All responses are reproduced exactly as written, including errors, misspellings, etc., if any.**

#### Essay Response – Score 6

Nations should not require that all students study the same national curriculum. If every child were presented with the same material, it would assume that all children learn the same and that all teachers are capable of teaching the same material in the same way. In addition to neglecting differences in learning and teaching styles, it would also stifle creativity and create a generation of drones. The uniformity would also lend itself to governmental meddling in curriculum that could result in the destruction of democracy. If every teacher is forced to teach a certain text, the government need only change that text to misinform an entire generation. Lastly, a standardized curriculum would also adversely affect students who come from lower income families or families who have little education as they might not have as many resources for learning outside of school.

Children all learn in very different ways. If the curriculum is standardized completely, it leaves little room for exploratory learning. One child may learn how to spell from reading, another may learn from phonics. If the curriculum is standardized, suppose one aspect is dropped, that may exclude certain chil-

dren from learning adequately. This is not to say of course that there shouldn't be requirements, but they should be general requirements, not something so specific as a curriculum. Especially at the high school level this would be detrimental to the variety of subjects that a student can learn. Standards and the “No Child Left Behind” act in America are already forcing the reduction in programs such as art and music that have a less defineable curriculum. Additionally, education systems are rarely funded well enough to achieve the general goal of educating children. If a national curriculum were implemented, would it come with a significant increase in financial support? History suggests that it would not.

Teachers also have different methods of teaching; if say, the English curriculum of all high schools were standardized, then a book that one teacher teaches excellently and therefore inspires students to read more and learn on their own might be eliminated, and although that teacher ought to be capable enough to teach the curriculum books, his or her students will still be missing out on what might have been a great learning experience. It also limits how much of the teacher's unique knowledge he or she can bring to the classroom. It is these inspirational books or experiences that allow teachers to reach students; if they are put in a mold, the quality of teaching and learning will go down.

Learning should be enjoyable and children and adolescents should be taught not only the curriculum in school, but that the body of knowledge that exists in the world today is enormous and that you can learn your whole life. Having a national curriculum implies that there is a set group of things worth learning for every person. Maybe this is true, but for students, it sets up a world where there is a finite amount of knowledge to be acquired for the purpose of regurgitating it on a test. Teaching a standard curriculum doesn't encourage inquiries; it doesn't make students ask questions like, “Why?” and “How?” School's real purpose is teaching people to learn, not just teaching them a set group of facts. By teaching them to learn, students can continue doing so, they can extend skills from one area of knowledge to another. This type of learning fosters creativity that can be used not only in math or science or English, but in art or music or creative writing. Teaching a brain to go beyond being a file cabinet for facts is the best way to teach creativity. Creativity is too often assumed to be something only for the arts. It is creativity that

results in innovation and it is innovation that has resulted in the greatest achievements of humanity in the sciences and humanities alike.

Finally, the education system of a country is designed to put all children on a level playing field. Though this is only an ideal, it is a noble ideal. If the school curriculum becomes standardized, children who have highly educated parents, or more money to buy books outside of school, or more resources for tutors or private schools will immediately gain a foothold. Poorer students from uneducated families in the current American school system are already at a disadvantage, but at least now there is hope through variety that something can reach out to them and inspire them. There is hope that they can find a class that interests them. If the curriculum becomes rigid and standardized, it is these disadvantaged students who fall through the cracks.

There are many reasons not to standardize the curriculum. The uniqueness of students and teachers is the most obvious, but students from less educated backgrounds will suffer the most. The creativity of a nation as a whole would fall with a standardized curriculum. Most importantly though is the question of who and what? Who chooses the curriculum? What is important enough that it must be taught? These questions assume that there is some infallible committee that can foresee all and know what knowledge will be important in everyone's lives. There is no person, no group, no committee capable of deciding what knowledge is necessary. Curriculum should have standards, not be standardized and education should be as much about knowledge as it about learning to learn.

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

This outstanding response develops an articulate and insightful position rejecting the prompt's recommendation of a national curriculum. The writer understands a national curriculum to mean both the material that is taught and the way it is taught. The essay offers a wide-ranging discussion of the practical and theoretical implications of a national curriculum for students, for teachers, and for a nation. For example, the response argues that prescribing particular content and teaching methods might make it more difficult for teachers to tailor lessons to students with different learning styles and might also force effective teachers to adopt teaching methods that are less effective for them and their students. Although the essay clearly rejects the recommendation for a na-

tional curriculum, the writer does concede that there is a need for educational standards that are flexible enough to allow for individual, socioeconomic, and regional differences.

The response maintains a well-focused, well-organized discussion, developing each point fully and connecting ideas logically without relying on obvious transitional phrases. The writing is fluent, despite minor errors in grammar and mechanics; sentence structure is varied and diction is effective. In sum, this response meets all of the criteria for a score of 6.

#### **Essay Response – Score 5**

While it may be to the advantage of a nation that all its students learn the same basic information, this can be accomplished without going to the lengths of having a national curriculum. By requiring that all students know a certain amount in basic areas of knowledge without specifying the details, a nation can achieve the same benefits of a national curriculum without unduly denying the freedom of teachers to teach as they see fit. A system of simple national standards is good enough. To go further and create a full-fledged national curriculum would gain nothing and impair the ability of teachers.

It is important to ensure that all students learn the fundamentals of different subject areas. In order to graduate from high school, for example, all students should have a good understanding of algebra, of basic concepts in science and history, and an ability to read critically. These are skills that will benefit people in all kinds of different careers. Even if you never manipulate an equation after graduating from high school, you will have a far better understanding of the world around you if you know simple facts of math and science. Fields such as English and history are even more important, as they are absolutely necessary to maintain an informed citizenry capable of making important decisions that all citizens of a democracy are called upon to make. In order to achieve this, it is necessary to have national standards of education. Most teachers are very capable of imparting knowledge on students, and most school boards are similarly well-intentioned. Nevertheless, without national standards, some students are bound to fall through the cracks, and some school boards, under pressure from groups of parents, may eliminate certain subject matter from schools, as has happened recently with the teaching of evolution in conservative areas of the United States. In order to ensure that all stu-

dents learn all that they need to know as functioning adults, some kind of national standards should be in place.

These national standards, however, need not go so far as to constitute a single national curriculum. No one knows a class of students better than its teachers, and no one else can shape a curriculum for their maximum benefit. A national curriculum would necessarily mean a one-size-fits-all approach, and what is appropriate in one classroom may not be in another. Partly this is a result of the intellectual levels of the students in question: some may be able to learn far more about a particular subject than others. But it is also a question of student goals. The desire for specialization begins before college. A student who wants to become an auto mechanic should be able to take auto shop classes, classes which would not be of interest to a future lawyer or scientist. This notion may sound unacceptably elitist in today's climate in which a college education has become almost an automatic goal of education, but it does not need to be this way. Students with limited interest in higher education should be able to opt out, to follow another curriculum that is more likely to lead to happiness later in life. As a society, we should not discourage them, but rather ensure that there are enough high-paying jobs available for skilled laborers with high school diplomas.

Everyone needs certain basic knowledge in order to function in society today. To this extent, we need national standards of instruction for students. But we do not need to cram every student into the same classes and force them to learn what we think is best for them.

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

This strong response presents a generally thoughtful, well-developed analysis of the issue and conveys meaning clearly. The introductory paragraph clearly disagrees with the prompt's recommendation: "By requiring that all students know a certain amount in basic areas of knowledge without specifying the details, a nation can achieve the same benefits of a national curriculum without unduly denying the freedom of teachers to teach as they see fit." The writer supports this position by first arguing for the necessity of national standards, citing the individual's need for fundamental knowledge in core areas, and by asserting that such knowledge makes for an informed, thoughtful citizenry. The discussion furthers this

argument by examining some of the disadvantages of a rigid national curriculum, namely the inability of a national curriculum to accommodate students' individual needs and interests.

The response develops its position with strong reasons and examples, though these reasons and examples are not always fully developed. For example, the response asserts that knowledge of English and history is "absolutely necessary to maintain an informed citizenry" and that "in order to achieve this, it is necessary to have national standards of education," but it never really explains how or why national standards would result in better-informed citizens than regional standards or a national curriculum would.

The response maintains a clear focus and organization with clear and logical transitions. Although the response conveys ideas clearly and demonstrates facility with standard written English, it lacks the precision of expression necessary for the highest score. In sum, this response demonstrates all of the characteristics required to earn a score of 5.

#### **Essay Response – Score 4**

As an educator, this topic is quite controversial to me. By having one set curriculum in the entire nation, students would be taught the same material. Students from the rural Texas will study the same thing as students in Brooklyn, NY and suburban Chicago. If they move from state to state, they will have covered the same material and they would be able to participate in class right away. You could also say that all students should have learned the same material, for which they should all be equal and should have the same opportunities. But it is unrealistic. I disagree with a national curriculum because all students are not the same, they have different interests, and this curriculum would not permit teachers to explore and teach to students interests.

First, a curriculum that becomes nation wide is supposed to teach all students the same material and perhaps the same way. All seventh graders will have to solve algebraic equations and then they will all be the same. But students are not the same. All children develop at different rates, they have different abilities. One cannot expect a child from Uptown Manhattan to be doing the same thing as the kids in southern Illinois. The conditions are different, they have different funding and quality of teachers. Parents involvement in their childrens education is different and that would affect what the students learn.

Besides having different abilities, the students have different interests or necessities. In one part of the nation it may be important to learn trigonometry and calculus because it is a high tech area. They use many computers and there might be a big market for careers in that field, but in another part of the country it might be more important to learn about farming and erosion. That the interest would be different. Teachers also need the freedom to teach what the students are interested in. If the kids want to know about the Chicano Movement, they should have the opportunity to learn about it, instead of learning about African American Civil Rights Movement. City kids are interested in different things than kids rural areas, as well as kids from the East Coast and the West Coast.

For these reasons I would have to disagree with a national curriculum. Children are different and they should have the right to learn about things they are interested in. Teachers should have the freedom to teach what he/she thinks is more important or interesting to their students. Teachers should teach their students, not a curriculum.

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

This response presents a competent analysis of the issue and conveys meaning with acceptable clarity. The writer begins by acknowledging some of the perceived strengths of a national curriculum but then disagrees with the prompt, arguing that “all students are not the same, they have different interests, and this curriculum would not permit teachers to explore and teach to students interests.” The writer supports this position by suggesting that a standardized approach to education will fail to address the different types of students who make up a nation’s youth; for instance, students in two different geographical areas may be subject to different socioeconomic conditions as well as different cultural attitudes toward the role of education. The writer continues exploring the role of geography by pointing out that different areas naturally emphasize different aspects of curriculum based upon regional concerns and that a national curriculum would unfairly homogenize education.

The response is adequately focused and organized, and although it contains some errors, it demonstrates sufficient control of language in order to express its ideas.

#### **Essay Response – Score 3**

Until now, many countries have mandatory course for their students until they enter the college. It is beneficial to students to have same amount knowledge in their schools. Also, I agree this recommendation because these reasons.

Even if students have extraordinary abilities to study, it just will be some specific parts of academic fields. Generally, most ordinary students have abilities to follow their study through their courses. For all students, if people want to be had same knowledge and same academic background, the national curriculum is essential. Of course, some people don’t want to follow their mandatory courses so that someone takes private classes in their house or takes a different class in other substituted schools. However, if students want to enter the college, they have to take a national test, for example, SAT. Like this test will require generalized knowledge until in the high school. For preparing this test, every students have to study requisited courses of SAT. Even though some students take private courses, they also have to prepare these classes. Because of this, national curriculum is needed. If they do not need to take a test to enter the college, they won’t prepare these classes. However, until now, every college wants to accept to be experimented students so that they need standardized test for everybody. Recently, even though national curriculum is becoming a social issue to criticize its efficiency, if governments don’t change their policy about their educational programs, it has to exist in the education.

However, the same national curriculum has some troubles. If one student doesn’t follow the same curriculum, this student will be failed to enter the college. The mandatory curriculum does not allow individual characteristics, some students who have surprisingly abilities for other fields, for example, playing chess, singing the classic song, and operating computer systems, will not enter the college. So, we should consider this problem in the same national curriculum.

Nevertheless, the system of the education will not change to allow other possibilities, a nation has to require all of their students to study the same courses, until the college. It is related to educational systems so that it is difficult to decide whatever is right. However, while the current educational system exist a nation, the country should require the same curriculum to its students.

### Reader Commentary for Essay Response – Score 3

This response demonstrates some competence in analyzing the issue and in conveying meaning, but it is obviously flawed. The writer adopts a position of agreement with the prompt, arguing that since higher education requires students to pass standardized exams, a curriculum which emphasized the same education for all students would be more conducive to passing college entrance exams and tests such as the SAT. In the course of this argument, the writer does consider that the implementation of a national curriculum would remove the opportunity for students to explore areas of study outside their core coursework but argues that this loss can be made up during the students' university coursework.

The response presents a clear position on the issue and develops that position with relevant reasons and examples, but it fails to convey ideas with acceptable clarity; it has problems in language and sentence structure that result in a lack of clarity. These frequent minor errors and occasional major errors in grammar, usage, and mechanics preclude the response from receiving an upper-half score. In order to merit a score of 4, this response would need to demonstrate better control of the conventions of standard written English.

### Essay Response – Score 2

A nation should teach all its students the same national curriculum until they enter college so that can prepare for college. Allowing everyone to learn the same curriculum will teach our society how to communicate with one another. This is a nation of equal opportunity and should be treated and taught equally. I believe that this would allow young individuals to get a better understanding of all different kinds of religions, culture, and society. All schools teach the same history, but some may focus more on what they feel is important then depending on where you are from.

### Reader Commentary for Essay Response – Score 2

After agreeing with the prompt's recommendation, this brief essay presents a series of unsupported claims about education and culture. The discussion fails to develop any of these claims with relevant reasons and/or examples or to make logical connections between them; as a result, the discussion is disorganized and unfocused. The final sentence states that all schools "teach the same history, but some may focus more on what they feel is important then

depending on where you are from." As a result of the response's frequent errors in language and sentence structure, it isn't at all clear whether this statement is intended as an observation of current practices or a recommendation that history curricula should be flexible enough to account for regional interests.

Though this response does contain frequent errors and lacks sentence variety, these flaws serve more to impede clarity than to interfere significantly with meaning. The essay is scored a 2 primarily because it is "seriously limited in addressing the specific task directions and in presenting or developing a position on the issue."

### Essay Response – Score 1

No i disagree with recommendation because it is not compulsory to student to study same national curriculum until they enter college.

Each and every student is own idea and family dream so, could not say like that student study the same nation curriculum until they enter college. we create a environment to all student are go and come in different country so we share over idea and comfortably leave with each other.

It is very necessary to colobrate with each other we develop our nation and different technology. We take a example of "SUNITA VILLIUM" she is a American scientist work in "NASA" basically she is a INDIAN. But she complete study in USA.

So, it is not necessary to study in own national Curriculum .but we develop environment to student study with different country and develop nation name and over parents name.

Also develop support position it is very advantageous for student. some time what happen student is intelligent but he/she not able to study well we develop some kind of facility to student study well and he/she develop over country.

To conclude "A nation should not require all of its student to study the same national curriculum until they enter college."

### Reader Commentary for Essay Response – Score 1

Although this essay is obviously attempting to respond to the prompt's recommendation, its severe problems in language and sentence structure and its pervasive grammar, usage, and mechanics errors make it impossible to discern whether the writer understands the recommendation made in the prompt. In fact, the only clear phrases in the response are those

that are borrowed from the prompt. These fundamental deficiencies in analytical writing warrant a score of 1.

## Argument Task Essay Responses and Reader Commentary

### Practice Test Argument Task

The following is a memorandum from the business manager of a television station.

“Over the past year, our late-night news program has devoted increased time to national news and less time to weather and local news. During this time period, most of the complaints received from viewers were concerned with our station’s coverage of weather and local news. In addition, local businesses that used to advertise during our late-night news program have just canceled their advertising contracts with us. Therefore, in order to attract more viewers to the program and to avoid losing any further advertising revenues, we should restore the time devoted to weather and local news to its former level.”

Write a response in which you discuss what specific evidence is needed to evaluate the argument and explain how the evidence would weaken or strengthen the argument.

**NOTE: All responses are reproduced exactly as written, including errors, misspellings, etc., if any.**

### Essay Response – Score 6

The decision to restore the time devoted to weather and local news to its former level is one that should be made with more careful consideration of evidence, data, and viewer/client feedback by the business manager of this television station. Many assumptions have been made on the business manager’s part about the exact cause of the problems with the program. He or she should approach the idea of making changes with more caution.

The memorandum stated that more complaints received from viewers were concerned with the station’s coverage of weather and local news, but it did not state the nature of the complaints. The viewers may have been complaining about the accuracy or quality of the weather and local news rather than the shortened length of the segments. More specific information about the complaints—including

whether they were about the late-night edition or about other news programs during the day—would support the argument because it would show if there was a relationship between the shortened length of the segments in the late-night news program and the viewers’ dissatisfaction with these particular segments. Sometimes it is the personalities and the chemistry of the news anchors that govern people’s decisions about which station’s news they watch. The business manager will never know unless he asks the viewers exactly why they do or do not enjoy watching his news program.

Additionally, stated in the memorandum was the fact that local businesses had just canceled their advertising contracts with the station. An assumption being made is that the reason businesses were pulling their ads was directly related to the shortened segments of the weather and local news. Considering the fact that more than one business just pulled their ad, other factors could have been involved, such as any controversy that the station’s national news may have recently brought up. Janet Jackson’s notorious wardrobe malfunction comes to mind. Though that incident happened during a national sporting event, there are many controversial national news topics that have the potential to create such a stir with the local public. If the manager could establish that businesses discontinued advertising contracts specifically because they were displeased with the change in news coverage, and that the remaining advertisers are on the verge of leaving if coverage of weather and local news is not increased, that information would help eliminate other possible explanations.

Evidence that research had been conducted to find specific ways to attract viewers to a news program would also strengthen the argument. Moreover, findings from research about what viewers would like to see on the program may help. Assuming that they would like to see more weather and local news does not seem safe. Perhaps they are looking for something besides national news, local news, and weather all together. Or possibly they are tuning into another station that has something in their program that draws their attention. Data about which ratings are highest and what people are watching would assist the business manager in his or her decision about how to change the program.

The station cannot expect to go back to the programming it once had and be successful. Obviously, something about the previous programming

must not have been working; otherwise they would not have changed their structure the last time. They cannot expect to see different results if they go back to the same structure. Careful analysis of all the factors I have presented is the best first step to making a change in the structure of their news program.

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

This outstanding response clearly identifies specific evidence necessary to evaluate the argument, and explains lucidly why the evidence is necessary. This response does a particularly nice job of both identifying specific evidence that would strengthen the prompt's argument and identifying evidence that would undermine the argument. For example, the response notes that while the argument assumes that lost advertising contracts are the result of the station's decreased attention to weather and local news, myriad factors, this assumption is unsupported by specific evidence. The response then provides a cogent and thorough discussion of the kinds of evidence needed to examine this assumption and how the evidence might strengthen or weaken the prompt's argument.

Each paragraph here is fully and cogently developed, and the response as a whole is organized logically. Finally, the response consistently demonstrates fluency and skillful use of language. For these reasons, the response earns a score of 6.

### **Essay Response – Score 5**

As the business manager of the television station, I would be concerned with two things; the fact that there are fewer advertisers during the late-night news, and the increased complaints received from viewers about weather and local news. To support the argument that the station should restore the time devoted to weather and local news, I would carefully analyze the reasons for these factors.

In regards to the complaints received, I would gather specific accounts that address both the issue of weather and local news. Several recorded phone calls, emails, or letters would suffice to show first-hand data that there is concern among some viewers. Next, I would do a thorough study into what percent of complaints are about news and weather, as opposed to other content of the program. If content complaints as well as specific weather and local-news related complaints are up, this would not support my argument.

If historical evidence about viewership and number of written grievances could be gathered, this would be even better. The station could look at the specific complaints, and number of comments from the previous year and compare them to this year's. Next, I would conduct surveys of viewers to understand the reasons why they watch the late-night news. I would also look at trends and variations among viewers of morning, evening, and late-night news. There is a chance that the demographics of individuals watching at these various times are completely different. A broad large-scale survey could be conducted to determine viewer interests. If other stations have taken such measures, perhaps this station could get a copy of results, to look at larger trends in the country. Before we assume that bringing back more local news and weather will increase our viewership, we need to understand why those individuals are not happy right now.

In terms of a station's success, funding from advertisers is very important. A station can run if they lack the audience, but have a financial backing; not the other way around. I would ask the advertisers who have dropped their contracts with the station why they did so. If the reasoning was because the receptionist was rude to them last time they called the station, then we could address that problem instead of rearranging our programming. We could also analyze what kinds of local advertisers are leaving. It could be that they have found more of an audience for their product advertising on another time-slot, or more specific special-interest cable channel that speaks more to their market. It would also be beneficial to speak with the advertisers as their marketing people may have better insight into the viewership of the late-night news than the station has. The previously mentioned viewer survey could have already been done by the local business advertisers, and this could help the station realign itself with the market. Though it might be difficult to coordinate, it would definitely be advantageous to contact other local station to inquire about their contract status with the local businesses. A general lackluster response from community business could be a result of a larger-scale economic downturn, rather than the change in programming of one station. If the station wants the support back from local business advertisers, it can't just make assumptions about what is driving contracts with television stations.



Lastly, if all evidence seemed to suggest that the decreased coverage of local news and weather was the reason for increased complaints from viewers and dropped contracts of local business advertisers, then there could be a test pilot week or month of heavier coverage of weather and local news during the late-night broadcasting. If complaints are still pouring in, it might be time to fire the news anchor- or at least to thoroughly analyze the possible consequence of and reasons for doing so.

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

This strong response offers a generally thoughtful and well-developed discussion of the specific evidence needed to evaluate the prompt's argument. In particular, the essay cites the need to obtain evidence detailing the nature and scope of the complaints, the preferences of the audience, and the reasons for the cancelled advertising contracts. Although this response sometimes lacks the full and cogent development of a 6, it does indicate how and why different types of evidence are necessary for a thorough evaluation of the argument. The response also occasionally digresses from its discussion of the evidence needed to evaluate the argument into specific strategies the television station might use to gather the needed evidence. On the whole, the essay conveys ideas clearly and demonstrates facility with standard written English but the response does lack the fluency and precision of language necessary for a 6. For these reasons, the response warrants a score of 5.

#### **Essay Response – Score 4**

In order for this argument to be strengthened, specific details about the viewers complaining and the businesses that pulled advertising need to be elucidated.

First, the station should be concerned about what the viewers are specifically complaining about in regards to the weather and local news coverage. It is possible that the viewers were complaining for various reasons, which may include the following: the anchorperson or weatherperson, and their physical appearance, or delivery of the news/weather, the quality of the graphics being used during these segments, or the quality or choice of the stories covered. The television station needs to determine the exact complaints, for it would strengthen the above argument if the complaints were specifically about the time spent on the local news and weather.

Along the lines of clarity, the station needs to determine the reasons why local businesses cancelled their advertising contracts. Alternative reasons for this may include another station offering cheaper air time during the same time slot, the local economy going bad, leading to these companies needing to cut costs in advertising, or consumer reports for the companies that detail better times to advertise to their customers. The television station may be losing these advertising contracts for other reasons than time devoted to local news and weather.

Finally, a closer look at viewer numbers might strengthen the argument that time spent on local news and weather is affecting this aspect. Support for this memorandum would come in the form of viewer percentages dropping the after the time devoted to national news increased. The business manager should make sure that the viewer numbers did not increase over the past year because of the increase in national news coverage. This would invalidate the argument in regards to attracting more viewers.

In conclusion, to strengthen or support the argument that restoring the time devoted to local news and weather would attract new viewers and avoid losing contracts, the business manager needs to outline that the complaints from viewers and cancelling of advertising contracts specifically occurred because of the shift to increased national news coverage.

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

This response earns a score of 4 by demonstrating competence both in its analysis of the argument and in its control of language. The response opens by noting the need for "specific details about the viewers complaining and the businesses that pulled advertising." It goes on to discuss how evidence suggesting alternative explanations for the viewer complaints and loss of advertising would undermine the argument. Although the essay provides some satisfactory support for and development of its analysis, the analysis as a whole is competent rather than generally thoughtful. Similarly, the response conveys meaning with only acceptable clarity.

#### **Essay Response – Score 3**

The aforementioned argument is a quality assessment of a potentially costly situation. In order for the news agency to ensure its continued success at the level that they once were it is absolutely necessary that they return to the level of local news that they once

had. The argument that has been presented to me seems to be logical one. There is a clear statement of the problem and there is a significant amount of detail that leads readers to see that the decline in the amount of business that the station does is directly related to the dereliction that it is given to the local news.

However, in order to make this argument stronger than it already is, I think that there are certain things that could be added to bolster the information that is already here. First of all, it may be necessary to include some sort of survey results from both the community and local businesses to ensure that the reason that they have withdrawn their business is because of the program's focus shift. It may be possible that this station is merely doing a bad job at delivering the news and that this is the reason for the decline. It is important to make sure the motivation for changing formats is the correct one.

Secondly, it should be noted that it is important to examine the complaints that were received during this time period. The information provided does not specify whether there was a spike in the amount of complaints that were coming in, or whether it was merely the same amount as usual. This would also be a point that needs to be examined closely before any definite decision could be made.

All in all, I think that the information that has been provided here is a sound and logical argument for returning the news back to the original format. However, I also feel that if the suggestions that I made were taken seriously, then it may be possible to make this argument even better than it originally was.

### Reader Commentary for Essay Response – Score 3

Although the response seems largely to accept the argument's claims, it demonstrates some competence in addressing the task by noting the need for information that could "bolster the information that is already there." The response goes on to question whether advertisers might have withdrawn for other reasons and whether the level of viewer complaints was any different from the usual, but the discussion does not go much beyond emphasizing the need for information. Moreover, though the discussion *implies* how particular pieces of evidence would strengthen the response, it does not articulate an explanation. Organization here is adequate, and control of language, though somewhat uneven, is sufficient to

convey ideas with acceptable clarity. In short, although the response's organization and control of language might be sufficient to warrant an upper-half score, the response must receive a score of 3 due to its limited development of relevant analysis.

### Essay Response – Score 2

In this passage, it is evident that the problem began when the formation of the station time had changed. There is a need for local and weather news in the late-night news programs. What is being targeted here is that if the late-nightly news is for local viewers, then local viewers should get the local news and weather followed by the world news. As Americans are affected by what is happening in the world, but the most affected news is of what is happening in the 'back yard.'

There has to be a compromise in news watching. There may be news that affects us in afar instead of up close. Most Americans want to know what happened near by, while others want to know what happened far away. Before the circulation had changed, the news station should have given a pole of all the late-night viewers to determine which program would be more beneficial to them, world news or local/ weather news.

In late-night news, the only viewers who would view this are the viewers who would be up late, which means these people work through the afternoon and evenings and miss the news broadcast at this time. The early day viewers usually watch the news during the morning and evening news. Even though the late-night viewers are watching the news, they still want to see what tomorrow will bring as far as controversy in the neighborhood or rain. Advertisements should be played mostly during the evening and the nightly news for better response to the ads. Most Americans work morning to evening and watch the evening and nightly news.

With this news program playing in the late-night, most views are not affected by it. When the news is playing and there is crucial information that needs to be heard, there are some Americans who rarely want to look at local advertisement, especially since they may be sleeping or working during the regular business hours of the advertisee.

There are many points that can be argued on the late-night news mainly because it is late-night. It does not affect the majority of the American population because they are mostly sleeping. For a company

who is advertising during this time frame, there should be an inclusion in the contract with the news company that states the advertisement that plays on late-night news should also play on the morning news or on the evening news. With this exposure, the contract would be satisfied.

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

Rather than identifying specific evidence needed to evaluate the prompt's argument, this response consists largely of a lengthy discussion of why and when people watch news programs. The essay's only acknowledgement of the assigned task appears in the second paragraph where the writer suggests that the station "should have given a pole" to determine what kind of information late-night viewers want. However, this call for additional evidence is not developed or supported in any way.

The response also suffers from errors in usage, grammar, and syntax that interfere with meaning (for example, in such sentences as "When the news is playing and there is crucial information that needs to be heard, there are some Americans who rarely want to look at local advertisement, especially since they may be sleeping or working during the regular business hours of the advertisee"). Although these errors are not frequent or serious enough to rule out a score of 3, the response must, nevertheless, receive a score of 2 because it largely disregards the specific task directions.

#### **Essay Response – Score 1**

The viewers concern local news. The local businesses want advertising.

I think the business manager should decrease national news for a television station will increase weather and local news. The local Advertising will be come back. The programs should have national news, local news, weather and advertising. The manager must be look for the stucture of the TV time.

In conclusion, I think the manager should restores the time to national news and talk with local business advertising for a television station.

#### **Reader Commentary for Essay Response – Score 1**

Although this response suggests some slight understanding of the argument's content and provides some visual cues that suggest organization, it suffers from pervasive errors in grammar and sentence structure that result in near-incoherence. Thus, the appropriate score is a 1.

# Appendix D

## Interpretive Information for the Verbal Reasoning and Quantitative Reasoning Measures of the Practice Test

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

Verbal Reasoning						Quantitative Reasoning					
Section 3			Section 4			Section 5			Section 6		
Question Number	Correct Answer	P+	Question Number	Correct Answer	P+	Question Number	Correct Answer	P+	Question Number	Correct Answer	P+
1	C	63	1	C	79	1	A	68	1	A	85
2	A	59	2	B	40	2	B	66	2	D	55
3	C, E	43	3	B, D	45	3	B	52	3	D	65
4	C, F	48	4	A, F	36	4	D	57	4	D	36
5	A, E	12	5	B, D	32	5	D	53	5	B	48
6	A, E, H	59	6	B, E, I	48	6	A	64	6	A	45
7	B, E, G	47	7	C, F, I	33	7	D	39	7	C	50
8	A, D, G	25	8	A, D, H	27	8	C	37	8	A	56
9	C	69	9	A, B	46	9	D	31	9	C	56
10	E	61	10	A, B, C	33	10	B	54	10	D	52
11	B	63	11	B	52	11	A, B, C, D	73	11	1/4	63
12	A, B, C	25	12	C	76	12	A	28	12	B, C, D, E	40
13	A, B	35	13	E	70	13	D	68	13	E	46
14	C	40	14	E	58	14	A	67	14	E	49
15	B, C	58	15	C	27	15	3600	66	15	B	22
16	D, F	43	16	D, E	60	16	A	78	16	B	62
17	B, D	38	17	D, F	36	17	250	59	17	B	74
18	B, C	29	18	A, E	35	18	C	59	18	E	25
19	B, C	30	19	B, C	31	19	B	47	19	C	50
20	A	46	20	C	65	20	A	23	20	B, C	69
21	E	48	21	A, B	39	21	B	55	21	B	26
22	E	53	22	E	63	22	A	25	22	A	58
23	A	25	23	C	52	23	36.5	34	23	D	42
24	C	63	24	A	40	24	D	53	24	10	61
25	A	56	25	C	77	25	D	46	25	B, C, D, E, F	20

\* The P+ is the percentage of examinees who answered the question correctly at a previous examination.

Note: There is no partial credit for partially correct answers. You should treat as incorrect any question for which you did not select all the correct answer choices.

## Estimated Score Conversions for the Verbal Reasoning and Quantitative Reasoning Measures

Raw Score	Verbal Reasoning Scaled Score Range	Quantitative Reasoning Scaled Score Range
50	750–800	750–800
49	750–800	750–800
48	750–800	750–800
47	750–800	750–800
46	750–800	750–800
45	750–800	750–800
44	740–800	750–800
43	730–800	750–800
42	710–800	750–800
41	700–800	750–800
40	670–770	740–800
39	660–760	730–800
38	650–750	720–800
37	640–740	700–800
36	620–720	690–790
35	600–700	680–780
34	590–690	670–770
33	570–670	650–750
32	550–650	640–740
31	540–640	630–730
30	530–630	600–700
29	520–620	590–690
28	510–610	570–670
27	500–600	570–670
26	490–590	560–660
25	470–570	530–630
24	460–560	510–610
23	450–550	500–600
22	440–540	480–580
21	430–530	450–550
20	420–520	440–540
19	410–510	430–530
18	400–500	410–510
17	380–480	390–490
16	370–470	380–480
15	360–460	360–460
14	350–450	340–440
13	340–440	330–430
12	330–430	310–410
11	300–400	300–400
10	290–390	280–380
9	280–380	260–360
8	260–360	250–350
7	260–360	230–330
6	240–340	210–310
5	230–330	200–300
4	220–320	200–280
3	200–300	200–260
2	200–290	200–250
1	200–270	200–250
0	200	200

**Percent of Examinees Scoring Lower Than Selected Scale Scores (Percentile Rank) on the Verbal and Quantitative Reasoning Measures**

(Based on the performance of all examinees who tested between July 1, 2006 and June 30, 2009)

<b>Scaled Score</b>	<b>Verbal Reasoning</b>	<b>Quantitative Reasoning</b>
800		94
790		91
780		89
770		87
760		84
750		82
740		80
730	99	77
720	98	75
710	98	72
700	97	70
690	97	68
680	96	66
670	95	63
660	94	61
650	93	59
640	92	56
630	91	54
620	89	52
610	88	49
600	86	47
590	84	45
580	82	43
570	80	40
560	78	38
550	75	36
540	73	34
530	70	32
520	68	30
510	65	28
500	63	27
490	60	25
480	57	23
470	55	22
460	52	20
450	49	19
440	46	17
430	43	16
420	41	15
410	38	14
400	35	12
390	32	11
380	29	10
370	27	9

*Continued on the next page.*

**Percent of Examinees Scoring Lower Than Selected Scale Scores (Percentile Rank) on the Verbal and Quantitative Reasoning Measures (cont'd)**

(Based on the performance of all examinees who tested between July 1, 2006 and June 30, 2009)

<b>Scaled Score</b>	<b>Verbal Reasoning</b>	<b>Quantitative Reasoning</b>
360	24	8
350	21	8
340	19	7
330	16	6
320	13	5
310	10	5
300	8	4
290	6	3
280	5	3
270	3	2
260	2	2
250	1	2
240		1
230		
220		
210		
200		

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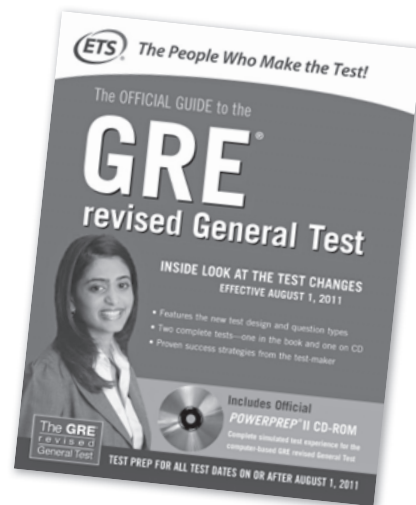
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