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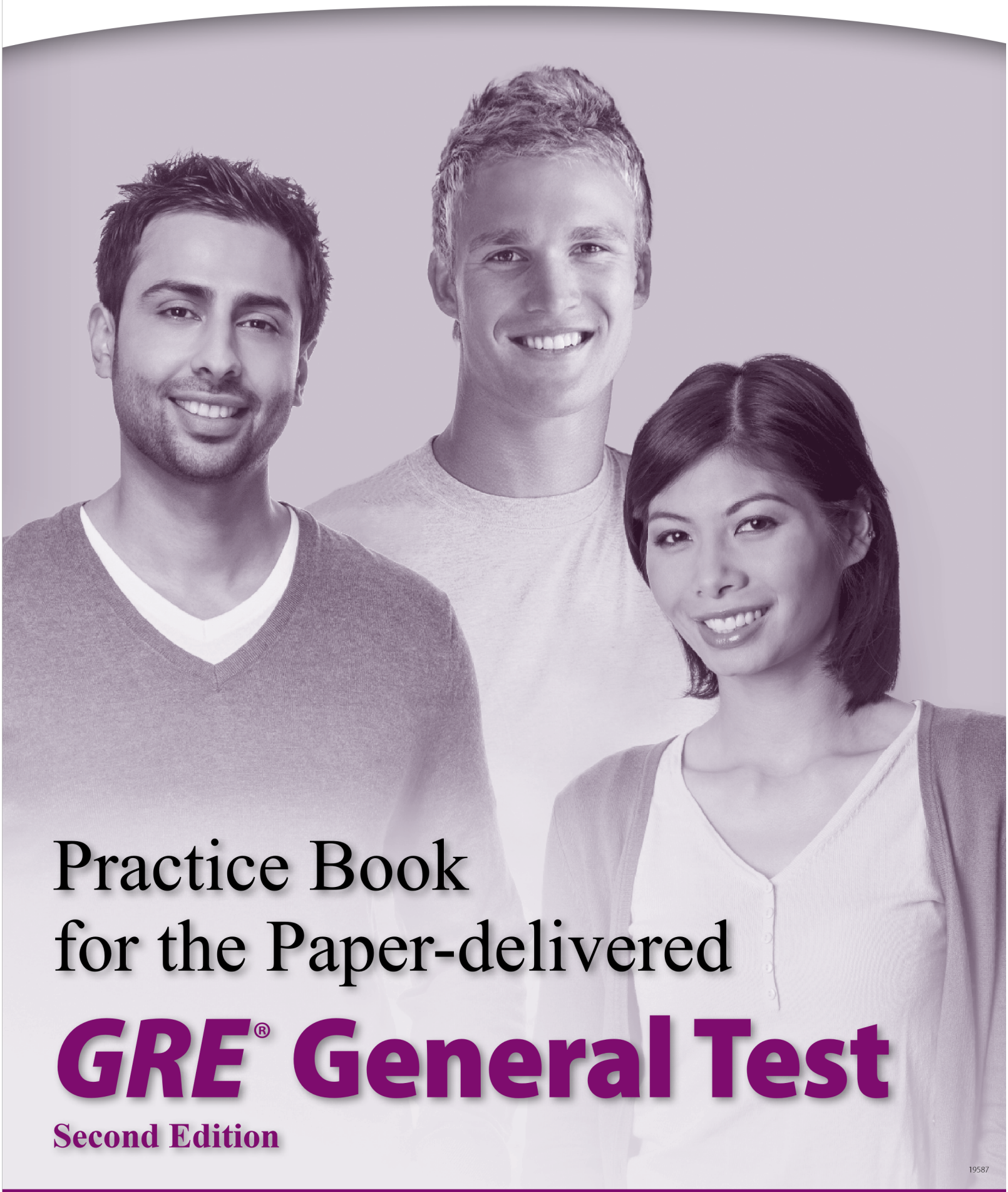

Practice Book for the Paper-delivered GRE® General Test

Second Edition

19587

ets.org/gre

Table of Contents

Overview 3

Introduction to the Analytical Writing Measure 6

Introduction to the Verbal Reasoning Measure 14

Introduction to the Quantitative Reasoning Measure 20
- Using the Calculator 31

Taking the Practice Test 32

Scoring the Practice Test 32

Evaluating Your Performance 32

Practice Test 34

Appendices
- A – Analytical Writing Scoring Guides and Score Level Descriptions 91
- B – Sample Analytical Writing Topics, Scored Sample Essay Responses and Reader Commentary 96
- C – Practice Test Analytical Writing Topics, Scored Sample Essay Responses and Reader Commentary 105
- D – Interpretive Information for the Verbal Reasoning and Quantitative Reasoning Measures 114

Visit **www.ets.org/gre/prepare** for more information about additional *GRE*® test preparation materials and services.

Test takers with disabilities or health-related needs who need test preparation materials in an alternate format should contact the ETS Office of Disability Services at **stassd@ets.org**. For additional information, visit **www.ets.org/gre/disabilities**.

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Overview

The *GRE*® General Test measures verbal reasoning, quantitative reasoning, critical thinking and analytical writing skills—skills that have been developed over a long period of time and are not related to a specific field of study, but are important for all. The test features question types that reflect the kind of thinking you will do and the skills you need to succeed in graduate and business school.

This publication provides an overview of each of the three measures 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 question types
- Review test-taking strategies
- Become familiar with the calculator that will be distributed on test day
- Review scored Analytical Writing essay responses and reader commentary
- Understand scoring
- Practice taking the test

If you are planning to take the computer-delivered GRE General Test, visit **www.ets.org/gre/prepare** for test preparation materials for the computer-delivered test.

Test Structure

The paper-delivered GRE General Test contains two Analytical Writing sections, 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 sections are always presented first.

Typical Paper-delivered GRE 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

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 31.

Preparing for the GRE General Test

Before taking the practice General Test, it is important to become familiar with the content of each of the measures. In this publication, you will 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/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 are looking for in an essay.

In the paper-delivered 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-delivered 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 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 score on the two essays are then averaged and rounded to the nearest half-point interval on the 0-6 score scale. A single score is reported for the Analytical Writing measure.

The primary emphasis in scoring the Analytical Writing 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 91–94 and available at **www.ets.org/gre/scoreguides**.

Independent Intellectual Activity

During the scoring process for the GRE General Test, essay responses on the Analytical Writing measure are 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, including sources from the Internet and/or sources provided by any third party.
- 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, and 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.

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 General Test include:

- A Verbal Reasoning score reported on a 130–170 score scale, in one-point increments
- A Quantitative Reasoning score reported on a 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 95.

Score-Reporting Timeframes

Scores on the paper-delivered GRE General Test are reported approximately five weeks after the test date. For specific information on score reporting dates for paper-delivered administrations, visit **www.ets.org/gre/score/dates**.

For tests taken on or after July 1, 2016, scores are reportable for five years following your test date. For tests taken prior to July 1, 2016, scores are reportable for five years following the testing year in which you tested. For more information about GRE score reporting, visit **www.ets.org/gre/scores/get**.

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 91–92.

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. 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 96–104.

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 93–94.

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 96–104.

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 in his compositions. 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] A return to the use of popular music in classical compositions
   [B] An attempt to elevate rock music to an artistic status more closely approximating that of classical music
   [C] 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)	Blank (ii)	Blank (iii)
Ⓐ overshadowed	Ⓓ enhance	Ⓖ plausibility of our hypotheses
Ⓑ invalidated	Ⓔ obscure	Ⓗ certainty of our entitlement
Ⓒ illuminated	Ⓕ underscore	Ⓘ 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)	Blank (ii)
Ⓐ temperance	Ⓓ tumultuous
Ⓑ notoriety	Ⓔ providential
Ⓒ eminence	Ⓕ 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.

Ⓐ permanently
Ⓑ imperceptibly
Ⓒ irregularly
Ⓓ precariously
Ⓔ 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 <u>two</u> answer choices that, when used to complete the sentence, fit the meaning of the sentence as a whole <u>and</u> produce completed sentences that are alike in meaning.

1. Although it does contain some pioneering ideas, one would hardly characterize the work as _____.

Ⓐ orthodox
Ⓑ eccentric
Ⓒ original
Ⓓ trifling
Ⓔ conventional
Ⓕ 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 roots; 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°-60°-90° 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 probability 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*, which is available at **www.ets.org/gre/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*, which is available at **www.ets.org/gre/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-delivered 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.

Ⓐ Quantity A is greater.
Ⓑ Quantity B is greater.
Ⓒ The two quantities are equal.
Ⓓ 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 inequity $1 < y$. Begin by setting up a comparison involving the two quantities, as follows:

  Quantity A $\boxed{?}$ Quantity B

  where $\boxed{?}$ 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 $\boxed{?}$ 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.

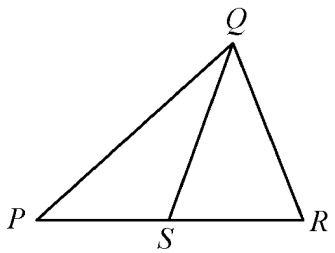
Sample Questions

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.

Ⓐ Quantity A is greater.
Ⓑ Quantity B is greater.
Ⓒ The two quantities are equal.
Ⓓ 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



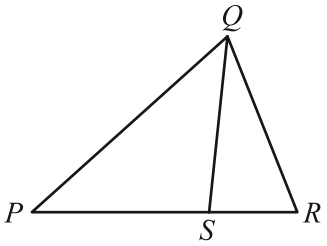
$PQ = PR$

	Quantity A	Quantity B	
1.	PS	SR	Ⓐ Ⓑ Ⓒ Ⓓ

Explanation

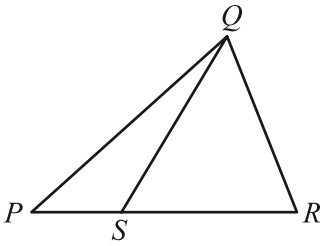
From Figure 1, you know that PQR is a triangle and that point S is between points P and R, so $PS < PR$ and $SR < PR$. You are also given that $PQ = PR$. However, this information is not sufficient to compare PS and SR. Furthermore, because the figure is not necessarily drawn to scale, you cannot determine 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



$PQ = PR$

Figure 3



$PQ = PR$

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	Ⓐ Ⓑ Ⓒ Ⓓ

Explanation

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

$$y > 4$$

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

Explanation

Set up the initial comparison: $\frac{3y + 2}{5} \;\boxed{?}\; y$

Then simplify:

Step 1: Multiply both sides by 5 to get $3y + 2 \;\boxed{?}\; 5y$

Step 2: Subtract $3y$ from both sides to get $2 \;\boxed{?}\; 2y$

Step 3: Divide both sides by 2 to get $1 \;\boxed{?}\; y$

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 $1 \;\boxed{?}\; y$, the placeholder $\boxed{?}$ 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.

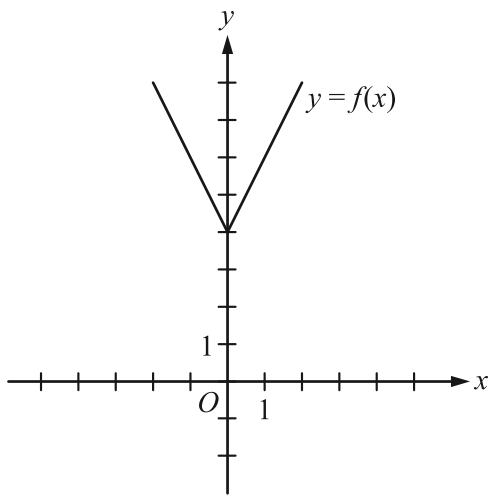
Tips for Answering

- **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



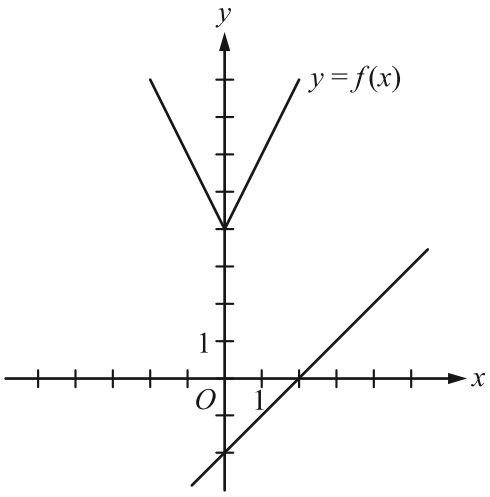
1. The figure above shows the graph of the function f defined by $f(x) = |2x| + 4$ for all numbers x. For which of the following functions g, defined for all numbers x, does the graph of g intersect the graph of f?

   Ⓐ $g(x) = x - 2$
   Ⓑ $g(x) = x + 3$
   Ⓒ $g(x) = 2x - 2$
   Ⓓ $g(x) = 2x + 3$
   Ⓔ $g(x) = 3x - 2$

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. Approximately what was the cost, in dollars, of the gasoline used in driving the car 350 miles?

   Ⓐ \$10
   Ⓑ \$20
   Ⓒ \$30
   Ⓓ \$40
   Ⓔ \$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 $31.287\ldots$, 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 conditions that limit the possible values of numerical 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 <u>two</u> answer choices.

1. Which two of the following numbers have a product that is between -1 and 0 ?

   Indicate <u>both</u> of the numbers.

   Ⓐ -20
   Ⓑ -10
   Ⓒ 2^{-4}
   Ⓓ 3^{-2}

Explanation

For this question, you must select a pair of answer choices. The product of the pair must be negative, so the possible products are $(-20)\left(2^{-4}\right)$, $(-20)\left(3^{-2}\right)$, $(-10)\left(2^{-4}\right)$, and $(-10)\left(3^{-2}\right)$. The product must also be greater than -1.

The first product is $\frac{-20}{2^4} = -\frac{20}{16} < -1$,

the second product is $\frac{-20}{3^2} = -\frac{20}{9} < -1$,

and the third product is $\frac{-10}{2^4} = -\frac{10}{16} > -1$,

so you can stop there.

The correct answer consists of Choices B and C: -10 and 2^{-4}.

Directions: For the following question, select <u>all</u> 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 $35,000 for the employees in Department Y. Which of the following amounts could be the average salary for all of the employees of the company?

   Indicate <u>all</u> such amounts.

   Ⓐ $26,000
   Ⓑ $28,000
   Ⓒ $29,000
   Ⓓ $30,000
   Ⓔ $31,000
   Ⓕ $32,000
   Ⓖ $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.

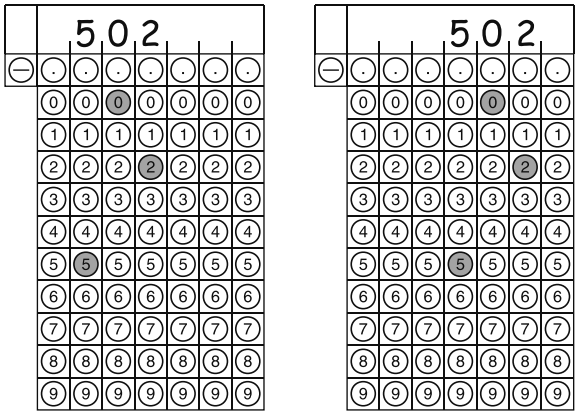
Sample Questions

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

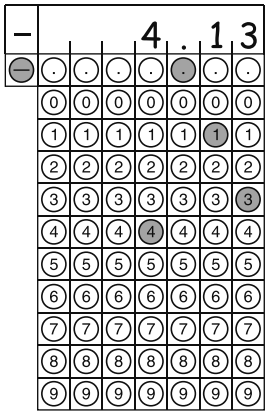
- Your answer may be an integer, a decimal, or a fraction, and it may be negative.
- Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
- Enter the exact 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 available.
- 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:

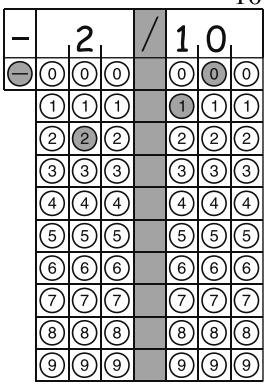
Integer answer: 502 (either position is correct)



Decimal answer: -4.13

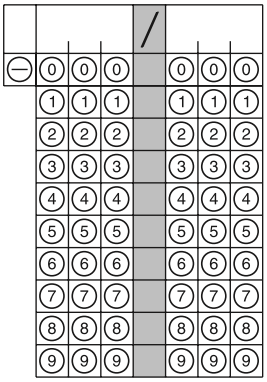


Fraction answer: $-\frac{2}{10}$



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 ?



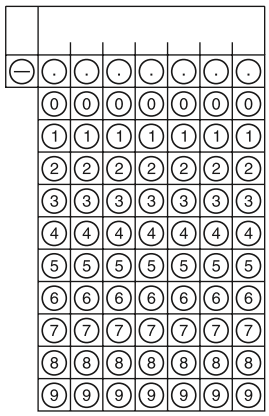
Explanation

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 any equivalent fraction).

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

2. Working alone at its constant rate, machine *A* produces *k* liters of a chemical in 10 minutes. Working alone at its constant rate, machine *B* produces *k* liters of the chemical in 15 minutes. How many minutes does it take machines *A* and *B*, working simultaneously at their respective constant rates, to produce *k* liters of the chemical?



minutes

Explanation

Machine *A* produces $\frac{k}{10}$ liters per minute, and machine *B* produces $\frac{k}{15}$ liters per minute. So when the machines work simultaneously, the rate at which the chemical is produced is the sum of these two rates, which is $\frac{k}{10} + \frac{k}{15} = k\left(\frac{1}{10} + \frac{1}{15}\right) = k\left(\frac{25}{150}\right) = \frac{k}{6}$ liters per minute. To compute the time required to produce *k* liters 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* liters in 10 minutes, then the two machines, working simultaneously, would take half the time, or 5 minutes, to produce the *k* liters. 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* liters in 15 minutes, then the two machines would take half the time, or 7.5 minutes, to produce the *k* liters. 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 Sets

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 to 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

1. 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 ?

   Ⓐ $727,200
   Ⓑ $792,000
   Ⓒ $800,000
   Ⓓ $880,000
   Ⓔ $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.

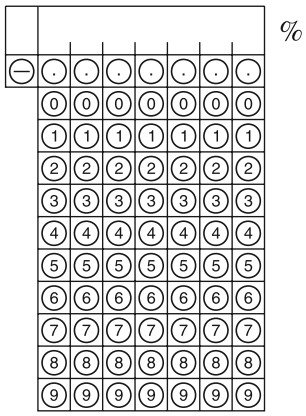
The correct answer is Choice B, $792,000.

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.

2. 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.



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 $\frac{A}{0.92A} = \frac{1}{0.92} = 1.0869565\ldots$. 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. Based on the information given, which of the following statements must be true?

   Indicate all such statements.

   Ⓐ For 2008 the dollar amount of sales at Store *R* was greater than that at each of the other four stores.

   Ⓑ The dollar amount of sales at Store *S* for 2008 was 22 percent less than that for 2006.

   Ⓒ 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 not equal to 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 in order to answer a question in the Quantitative Reasoning measure are somewhat time-consuming, like long division, or involve 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.
- Avoid using it to introduce decimals if you are asked to give an answer as a fraction.
- • 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 greater than 99,999,999, then the calculator will indicate that this is an error. For example, the calculation $10{,}000{,}000 \boxed{\times} 10 \boxed{=}$ results in an error.

If a computation results in a positive number less than 0.0000001, or 10^{-7}, then 0 will be displayed.

- 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 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 test begins on page 34. 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.

Scoring the Practice Test

Appendix D on pages 114–115 contains a table of the correct answers to the questions in the Verbal Reasoning and Quantitative Reasoning sections. 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.

Evaluating Your Performance

After you have scored your practice 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. Scored sample essay responses and reader commentary are presented in Appendix C on pages 105–113 for the one Issue topic and one Argument topic presented in the Analytical Writing sections of the test.

You should review the score level descriptions in Appendix A on page 95 to better understand the analytical writing abilities characteristic of particular score levels.

Verbal Reasoning and Quantitative Reasoning Measures

You can evaluate your performance on the Verbal Reasoning and Quantitative Reasoning measures 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 114, there is a number to the right of each correct answer. That number, referred to as P+, is the percent of a group of actual test takers who were administered that same question at a previous test administration and who answered it correctly. P+ is used to gauge the relative difficulty of a test question. The higher the P+, the easier the test question. You can use the P+ to compare your performance on each test question to the performance of other test takers on that same question. It can also help identify content areas in which you need more practice and review.

For example, if the P+ for a question is 89, that means that 89 percent of GRE test takers who received this question answered it correctly. Alternatively, if the P+ for a question is 14, that means that 14 percent of GRE test takers who received this question answered it correctly. A question with a P+ of 89 may be interpreted as a relatively easy question, and a question with a P+ of 14 may be interpreted as a difficult question.

Next, add the number of correct answers in Sections 3 and 4 to obtain your raw Verbal Reasoning score. Add the number of correct answers in Sections 5 and 6 to obtain your raw Quantitative Reasoning score. Once you have calculated your raw scores, refer to the score conversion table on page 115 to find the scaled scores corresponding to your raw scores on both the Verbal Reasoning and Quantitative Reasoning measures. These scores 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 scores provided can help guide your test preparation.

The percentile rank tables at **www.ets.org/gre/percentile** allow you to compare your scaled scores with the scores of others who have taken the General Test. The tables provide for each 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 your scores.

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.

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GO ON TO THE NEXT PAGE.

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.

> The best way for a society to prepare its young people for leadership in government, industry, or other fields is by instilling in them a sense of cooperation, not competition.
>
> 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.

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.**

Plan your response below. When you are ready to begin writing your essay, turn to the next page.

GO ON TO THE NEXT PAGE.

ANALYZE AN ISSUE RESPONSE (Page 1 of 4)

ANALYZE AN ISSUE RESPONSE (Page 2 of 4)

GO ON TO THE NEXT PAGE.

ANALYZE AN ISSUE RESPONSE (Page 3 of 4)

ANALYZE AN ISSUE RESPONSE (Page 4 of 4)

STOP

If you finish before time is called, you may check your work on this section only.

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 taken from a memo from the advertising director of the Super Screen Movie Production Company.

"According to a recent report from our marketing department, during the past year, fewer people attended Super Screen-produced movies than in any other year. And yet the percentage of positive reviews by movie reviewers about specific Super Screen movies actually increased during the past year. Clearly, the contents of these reviews are not reaching enough of our prospective viewers. Thus, the problem lies not with the quality of our movies but with the public's lack of awareness that movies of good quality are available. Super Screen should therefore allocate a greater share of its budget next year to reaching the public through advertising."

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.

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

- Respond to the specific task instructions
- Identify and analyze features of the argument relevant to the assigned task
- Organize, develop, and express your ideas
- Support your analysis 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 passage 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 response 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.**

GO ON TO THE NEXT PAGE.

Plan your response below. When you are ready to begin writing your essay, turn to the next page.

GO ON TO THE NEXT PAGE.

ANALYZE AN ARGUMENT RESPONSE (Page 1 of 4)

ANALYZE AN ARGUMENT RESPONSE (Page 2 of 4)

GO ON TO THE NEXT PAGE.

ANALYZE AN ARGUMENT RESPONSE (Page 3 of 4)

ANALYZE AN ARGUMENT RESPONSE (Page 4 of 4)

STOP

If you finish before time is called, you may check your work on this section only.

Instructions for Verbal Reasoning and Quantitative Reasoning Sections

Important Notes

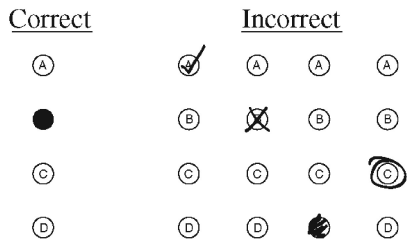
Your scores for these sections will be determined by the number of questions you answer correctly. Nothing is subtracted from a score if you answer a question incorrectly. Therefore, to maximize your scores it is better for you to guess at an answer than not to respond at all. Work as rapidly as you 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.



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?

Ⓐ Rome

● Paris

Ⓒ London

Ⓓ Cairo

GO ON TO THE NEXT PAGE.

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 are in Africa?

- ■ Chad
- ☐ Ⓑ China
- ☐ Ⓒ France
- ■ 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)	Blank (ii)
● Paris	Ⓓ Canada
Ⓑ Rome	● France
Ⓒ Cairo	Ⓕ 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.

GO ON TO THE NEXT PAGE.

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. Many find it strange that her writing is thought to be tortuous; her recent essays, although longer than most of her earlier essays, are extremely _____.

   (A) painstaking
   (B) tedious
   (C) insightful
   (D) sophisticated
   (E) clear

2. Most spacecraft are still at little risk of collision with space debris during their operational lifetimes, but given the numbers of new satellites launched each year, the orbital environment in the future is likely to be less _____.

   (A) crowded
   (B) invulnerable
   (C) protected
   (D) polluted
   (E) benign

3. The author presents the life of Zane Grey with _____ unusual in a biographer: he is not even convinced that Grey was a good writer.

   (A) a zeal
   (B) a deftness
   (C) a detachment
   (D) an eloquence
   (E) an imaginativeness

4. The unironic representation of objects from everyday life is (i) _____ serious American art of the twentieth century: "high" artists ceded the straightforward depiction of the (ii) _____ to illustrators, advertisers, and packaging designers.

Blank (i)	Blank (ii)
Ⓐ missing from	Ⓓ beautiful
Ⓑ valued in	Ⓔ commonplace
Ⓒ crucial to	Ⓕ complex

5. A newly published, laudatory biography of George Bernard Shaw fails, like others before it, to capture the essence of his personality: the more he is (i) _____, the more his true self seems to (ii) _____.

Blank (i)	Blank (ii)
Ⓐ discussed	Ⓓ disappear
Ⓑ disparaged	Ⓔ emerge
Ⓒ disregarded	Ⓕ coalesce

6. Although he has long had a reputation for (i) _____, his behavior toward his coworkers has always been (ii) _____, suggesting he may not be as insolent as people generally think.

Blank (i)	Blank (ii)
Ⓐ inscrutability	Ⓓ brazen
Ⓑ venality	Ⓔ courteous
Ⓒ impudence	Ⓕ predictable

GO ON TO THE NEXT PAGE.

7. There is nothing that (i) _____ scientists more than having an old problem in their field solved by someone from outside. If you doubt this (ii) _____, just think about the (iii) _____ reaction of paleontologists to the hypothesis of Luis Alvarez—a physicist—and Walter Alvarez—a geologist—that the extinction of the dinosaurs was caused by the impact of a large meteor on the surface of the planet.

Blank (i)	Blank (ii)	Blank (iii)
Ⓐ amazes	Ⓓ exposition	Ⓖ contemptuous
Ⓑ pleases	Ⓔ objurgation	Ⓗ indifferent
Ⓒ nettles	Ⓕ observation	Ⓘ insincere

8. If one could don magic spectacles—with lenses that make the murky depths of the ocean become transparent—and look back several centuries to an age before widespread abuse of the oceans began, even the most (i) _____ observer would quickly discover that fish were formerly much more abundant. Likewise, many now-depleted species of marine mammals would appear (ii) _____. But without such special glasses, the differences between past and present oceans are indeed hard to (iii) _____.

Blank (i)	Blank (ii)	Blank (iii)
Ⓐ casual	Ⓓ threatened	Ⓖ ignore
Ⓑ prescient	Ⓔ plentiful	Ⓗ discern
Ⓒ clearheaded	Ⓕ unfamiliar	Ⓘ dismiss

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

Questions 9 to 11 are based on this passage.

Historian F. W. Maitland observed that legal documents are the best—indeed, often the only—available evidence about the economic and social history of a given period. Why, then, has it taken so long for historians to focus systematically on the civil (noncriminal) law of early modern (sixteenth- to eighteenth-century) England? Maitland offered one reason: the subject requires researchers to "master an extremely formal system of pleading and procedure." Yet the complexities that confront those who would study such materials are not wholly different from those recently surmounted by historians of criminal law in England during the same period. Another possible explanation for historians' neglect of the subject is their widespread assumption that most people in early modern England had little contact with civil law. If that were so, the history of legal matters would be of little relevance to general historical scholarship. But recent research suggests that civil litigation during the period involved artisans, merchants, professionals, shopkeepers, and farmers, and not merely a narrow, propertied, male elite. Moreover, the later sixteenth and early seventeenth centuries saw an extraordinary explosion in civil litigation by both women and men, making this the most litigious era in English history on a per capita basis.

9. The passage suggests that the history of criminal law in early modern England differs from the history of civil law during that same period in that the history of criminal law

   Ⓐ is of more intellectual interest to historians and their readers

   Ⓑ has been studied more thoroughly by historians

   Ⓒ is more relevant to general social history

   Ⓓ involves the study of a larger proportion of the population

   Ⓔ does not require the mastery of an extremely formal system of procedures

10. The author of the passage mentions the occupations of those involved in civil litigation in early modern England most likely in order to

   Ⓐ suggest that most historians' assumptions about the participants in the civil legal system during that period are probably correct

   Ⓑ support the theory that more people participated in the civil legal system than the criminal legal system in England during that period

   Ⓒ counter the claim that legal issues reveal more about a country's ordinary citizens than about its elite

   Ⓓ illustrate the wide range of people who used the civil legal system in England during that period

   Ⓔ suggest that recent data on people who participated in early modern England's legal system may not be correct

11. The author of the passage suggests which of the following about the "widespread assumption" (line 15)?

   Ⓐ Because it is true, the history of civil law is of as much interest to historians focusing on general social history as to those specializing in legal history.

   Ⓑ Because it is inaccurate, the history of civil law in early modern England should enrich the general historical scholarship of that period.

   Ⓒ It is based on inaccurate data about the propertied male elite of early modern England.

   Ⓓ It does not provide a plausible explanation for historians' failure to study the civil law of early modern England.

   Ⓔ It is based on an analogy with criminal law in early modern England.

GO ON TO THE NEXT PAGE.

Questions 12 and 13 are based on this passage.

Geese can often be seen grazing in coastal salt marshes. Unfortunately, their intense grazing removes the grassy covering, exposing marsh sediment; this increases evaporation, which in turn increases salt concentration in marsh sediments. Because of this increased concentration, regrowth of plants is minimal, leading to increased erosion, which leads to a decrease in the fertile topsoil, leading to even less regrowth. In time, the salt marsh becomes a mudflat. This process challenges one of the most widely held beliefs about the dynamics of salt-marsh ecosystems: supposedly, consumers such as geese do not play a large role in controlling the productivity of marsh systems. Rather, the standard view claims, marshes are controlled by bottom-up factors, such as nutrients and physical factors.

12. The author discusses "the standard view" (line 14) most likely in order to identify a view that

Ⓐ explains the occurrence of the chain of events described in the passage

Ⓑ provides a summary of the chain of events described in the passage

Ⓒ is called into question by the chain of events described in the passage

Ⓓ advocates reassessment of the widely held belief described in the passage

Ⓔ is undermined by the widely held belief described in the passage

13. According to the passage, which of the following is a widely held belief about geese?

Ⓐ They are not often seen grazing in coastal salt marshes.

Ⓑ They are not the primary consumers in salt-marsh ecosystems.

Ⓒ They play only a minor role in the productivity of salt-marsh ecosystems.

Ⓓ They are the primary determinants of which resources will thrive in coastal salt marshes.

Ⓔ They control the productivity of salt-marsh ecosystems through a bottom-up process.

Question 14 is based on this passage.

Newspaper Editorial

Last year, Mayor Stephens established a special law-enforcement task force with the avowed mission of eradicating corruption in city government. The mayor's handpicked task force has now begun prosecuting a dozen city officials. Since all of these officials were appointed by Mayor Bixby, Mayor Stephens' predecessor and longtime political foe, it is clear that those being prosecuted have been targeted because of their political affiliations.

Line 5

14. Which of the following, if true, most weakens the editorial's argument?

Ⓐ Complaints of official corruption in city government have decreased since the anticorruption task force began operating.

Ⓑ Former mayor Bixby did not publicly oppose Mayor Stephens' establishment of the anticorruption task force.

Ⓒ Almost all of the officials who have served in city government for any length of time are appointees of Mayor Bixby.

Ⓓ All of the members of the anticorruption task force had other jobs in city government before the task force was formed.

Ⓔ During the last mayoral election campaign, then–Mayor Bixby hotly disputed the current mayor's claim that there was widespread corruption in city government.

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

15. The slower-learning monkeys searched _____ but unintelligently: although they worked closely together, they checked only the most obvious hiding places.

Ⓐ competitively

Ⓑ impulsively

Ⓒ cooperatively

Ⓓ deviously

Ⓔ craftily

Ⓕ harmoniously

16. By about age eight, children's phonetic capacities are fully developed but still _____; thus children at that age can learn to speak a new language with a native speaker's accent.

Ⓐ plastic

Ⓑ vestigial

Ⓒ inarticulate

Ⓓ unformed

Ⓔ nascent

Ⓕ malleable

GO ON TO THE NEXT PAGE.

17. In medieval philosophy every physical phenomenon is presumed to have some determinate cause, leaving no place for _____ in the explanation of particular events.

(A) happenstance

(B) chance

(C) error

(D) experience

(E) context

(F) miscalculation

18. Although the film is rightly judged imperfect by most of today's critics, the films being created today are _____ it, since its release in 1940 provoked sufficient critical discussion to enhance the intellectual respectability of cinema considerably.

(A) beholden to

(B) indebted to

(C) derivative of

(D) based on

(E) distinguishable from

(F) biased against

19. The detective's conviction that there were few inept crimes in her district led her to impute some degree of _____ to every suspect she studied.

(A) deceit

(B) acumen

(C) duplicity

(D) shrewdness

(E) evasiveness

(F) equivocation

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

Questions 20 to 22 are based on this passage.

The decrease in responsiveness that follows continuous stimulation (adaptation) is common to all sensory systems, including olfaction. With continued exposure to chronically present ambient odors, individuals' perception of odor intensity is greatly reduced. Moreover, these perceptual changes can be profound and durable. It is commonly reported that following extended absences from the odorous environment, reexposure may still fail to elicit perception at the original intensity.

Most research on olfactory adaptation examines relatively transient changes in stimulus detection or perceived intensity—rarely exceeding several hours and often less—but because olfactory adaptation can be produced with relatively short exposures, these durations are sufficient for investigating many parameters of the phenomenon. However, exposures to odors in natural environments often occur over far longer periods, and the resulting adaptations may differ qualitatively from short-term olfactory adaptation. For example, studies show that even brief periods of odorant stimulation produce transient reductions in receptors in the olfactory epithelium, a process termed "receptor fatigue." Prolonged odor stimulation, however, could produce more long-lasting reductions in response, possibly involving structures higher in the central nervous system pathway.

20. According to the passage, the phenomenon of olfactory adaptation may cause individuals who are reexposed to an odorous environment after an extended absence to

Ⓐ experience a heightened perception of the odor

Ⓑ perceive the odor as being less intense than it was upon first exposure

Ⓒ return to their original level of perception of the odor

Ⓓ exhibit a decreased tolerance for the odorous environment

Ⓔ experience the phenomenon of adaptation in other sensory systems

21. The passage asserts which of the following about the exposures involved in the "research on olfactory adaptation" (line 11)?

    Ⓐ The exposures are of long enough duration for researchers to investigate many aspects of olfactory adaptation.

    Ⓑ The exposures have rarely consisted of reexposures following extended absences from the odorous environment.

    Ⓒ The exposures are intended to reproduce the relatively transient olfactory changes typical of exposures to odors in natural environments.

    Ⓓ Those exposures of relatively short duration are often insufficient to produce the phenomenon of receptor fatigue in study subjects.

    Ⓔ Those exposures lasting several hours produce reductions in receptors in the olfactory epithelium that are similar to the reductions caused by prolonged odor stimulation.

22. The author of the passage discusses "receptor fatigue" (line 24) primarily in order to

    Ⓐ explain the physiological process through which long-lasting reductions in response are thought to be produced

    Ⓑ provide an example of a process that subjects would probably not experience during a prolonged period of odorant stimulation

    Ⓒ help illustrate how the information gathered from most olfactory research may not be sufficient to describe the effects of extended exposures to odors

    Ⓓ show how studies of short-term olfactory adaptation have only accounted for the reductions in response that follow relatively brief absences from an odorous environment

    Ⓔ qualify a statement about the severity and duration of the perceptual changes caused by exposure to chronically present ambient odors

Questions 23 and 24 are based on this passage.

Among academics involved in the study of Northern Renaissance prints (reproducible graphic artworks), an orthodox position can be said to have emerged. This position regards Renaissance prints as passive representations of their time—documents that reliably record contemporary events, opinions, and beliefs—and therefore as an important means of accessing the popular contemporary consciousness. In contrast, pioneering studies such as those by Scribner and Moxey take a strikingly different approach, according to which Northern Renaissance prints were purposeful, active, and important shaping forces in the communities that produced them. Scribner, for example, contends that religious and political prints of the German Reformation (ca. 1517–1555) functioned as popular propaganda: tools in a vigorous campaign aimed at altering people's behavior, attitudes, and beliefs.

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

23. The passage suggests that an adherent to the "orthodox position" (line 3) would agree with which of the following statements?

    Ⓐ Northern Renaissance prints should be regarded as passive representations of their time.

    Ⓑ Northern Renaissance prints were part of a campaign aimed at altering contemporary thinking.

    Ⓒ Northern Renaissance prints provide reliable records of contemporary events, opinions, and beliefs.

24. Replacement of the word "passive" (line 5) with which of the following words results in the least change in meaning for the passage?

    Ⓐ disinterested

    Ⓑ submissive

    Ⓒ flaccid

    Ⓓ supine

    Ⓔ unreceptive

GO ON TO THE NEXT PAGE.

Question 25 is based on this passage.

Recently an unusually high number of dolphins have been found dead of infectious diseases, and most of these had abnormally high tissue concentrations of certain compounds that, even in low concentrations, reduce dolphins' resistance to infection. The only source of these compounds in the dolphins' environment is boat paint. Therefore, since dolphins rid their bodies of the compounds rapidly once exposure ceases, their mortality rate should decline rapidly if such boat paints are banned.

Line 5

25. Which of the following, if true, most strengthens the argument?

Ⓐ The levels of the compounds typically used in boat paints today are lower than they were in boat paints manufactured a decade ago.

Ⓑ In high concentrations, the compounds are toxic to many types of marine animals.

Ⓒ The compounds break down into harmless substances after a few months of exposure to water or air.

Ⓓ High tissue levels of the compounds have recently been found in some marine animals, but there is no record of any of those animals dying in unusually large numbers recently.

Ⓔ The compounds do not leach out of the boat paint if the paint is applied exactly in accordance with the manufacturer's directions.

STOP

If you finish before time is called, you may check your work on this section only.

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. This filmmaker is not outspoken on political matters: her films are known for their aesthetic qualities rather than for their _____ ones.

Ⓐ polemical
Ⓑ cinematic
Ⓒ narrative
Ⓓ commercial
Ⓔ dramatic

2. James Boswell's *Life of Samuel Johnson* is generally thought to have established Boswell as the first great modern biographer; yet the claim of _____ could be made for Johnson himself as author of a life of Richard Savage.

Ⓐ partisanship
Ⓑ omniscience
Ⓒ precedence
Ⓓ opportunism
Ⓔ perseverance

GO ON TO THE NEXT PAGE.

3. Critics charge that the regulatory agency, having never defined what constitutes an untenable risk, has grown (i) _____ outside influences on that issue: several experts have (ii) _____ it recently for allowing one power plant to delay an inspection for more than six weeks despite compelling safety concerns.

Blank (i)	Blank (ii)
Ⓐ susceptible to	Ⓓ complimented
Ⓑ unaware of	Ⓔ panned
Ⓒ irritated at	Ⓕ overlooked

4. Television promotes (i) _____ of emotion in viewers through an unnatural evocation, every five minutes, of different and (ii) _____ feelings.

Blank (i)	Blank (ii)
Ⓐ a withdrawal	Ⓓ incompatible
Ⓑ an obscuring	Ⓔ sympathetic
Ⓒ a discontinuity	Ⓕ interminable

5. Because we assume the (i) _____ of natural design, nature can often (ii) _____ us: as the Wright brothers noted, the birds initially misled them in almost every particular, but their Flyer eventually succeeded by being the least avian of the early flying machines.

Blank (i)	Blank (ii)
Ⓐ quirkiness	Ⓓ galvanize
Ⓑ preeminence	Ⓔ befriend
Ⓒ maladroitness	Ⓕ beguile

6. Colleagues describe Padgett as both forthright and reticent, humble and (i) _____, good-natured and (ii) _____ . And in her behavior as a businesswoman, Padgett herself does little to (iii) _____ these contradictions. She says she is proemployee but is avowedly antiunion. She calls herself procustomer but acknowledges that she runs a store with higher profit margins and prices than almost any other grocer.

Blank (i)	Blank (ii)	Blank (iii)
Ⓐ diffident	Ⓓ prickly	Ⓖ dispel
Ⓑ eccentric	Ⓔ solicitous	Ⓗ fulfill
Ⓒ arrogant	Ⓕ phlegmatic	Ⓘ accentuate

7. Historical research makes two somewhat antithetical truths that sounded (i) _____ come to seem profound: knowledge of the past comes entirely from written documents, giving written words great (ii) _____, and the more material you uncover, the more (iii) _____ your subject becomes.

Blank (i)	Blank (ii)	Blank (iii)
Ⓐ deep	Ⓓ consequence	Ⓖ elusive
Ⓑ portentous	Ⓔ antiquity	Ⓗ contemporary
Ⓒ banal	Ⓕ simultaneity	Ⓘ circumstantial

8. The recent publication of the painter Robert Motherwell's substantial body of writing, as well as writings by fellow Expressionist Barnett Newman, (i) _____ Ann Gibson's assertion that the Abstract Expressionists were reluctant to (ii) _____ issues of artistic meaning in their work and suggests that this supposed reticence was perhaps more artistic (iii) _____ than historical fact.

Blank (i)	Blank (ii)	Blank (iii)
Ⓐ substantiates	Ⓓ forgo	Ⓖ conscience
Ⓑ undermines	Ⓔ articulate	Ⓗ focus
Ⓒ overlooks	Ⓕ conceal	Ⓘ posturing

GO ON TO THE NEXT PAGE.

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

Questions 9 to 12 are based on this passage.

The work of English writer Aphra Behn (1640–1689) changed markedly during the 1680s, as she turned from writing plays to writing prose narratives. According to literary critic Rachel Carnell, most scholars view this change as primarily motivated by financial considerations: earning a living by writing for the theatre became more difficult in the 1680s, so Behn tried various other types of prose genres in the hope of finding another lucrative medium. In fact, a long epistolary scandal novel that she wrote in the mid-1680s sold quite well. Yet, as Carnell notes, Behn did not repeat this approach in her other prose works; instead, she turned to writing shorter, more serious novels, even though only about half of these were published during her lifetime. Carnell argues that Behn, whose stage productions are primarily comedies, may have turned to an emerging literary form, the novel, in a conscious attempt to criticize, and subvert for her own ends, the conventions and ideology of a well-established form of her day, the dramatic tragedy.

Carnell acknowledges that Behn admired the skill of such contemporary writers of dramatic tragedy as John Dryden, and that Behn's own comic stage productions displayed the same partisanship for the reigning Stuart monarchy that characterized most of the politically oriented dramatic tragedies of her day. However, Carnell argues that Behn took issue with the way in which these writers and plays defined the nature of tragedy. As prescribed by Dryden, tragedy was supposed to concern a heroic man who is a public figure and who undergoes a fall that evokes pity from the audience. Carnell points out that Behn's tragic novels focus instead on the plight of little-known women and the private world of the household; even in her few novels featuring male protagonists, Behn insists on the importance of the crimes these otherwise heroic figures commit in the domestic sphere. Moreover, according to Carnell, Behn questioned the view promulgated by monarchist dramatic tragedies such as Dryden's: that the envisioned "public" political ideal—passive obedience to the nation's king—ought to be mirrored in the private sphere, with family members wholly obedient to a male head of household. Carnell sees Behn's novels not only as rejecting the model of patriarchal and hierarchical family order, but also as warning that insisting on such a parallel can result in real tragedy befalling the members of the domestic sphere. According to Carnell, Behn's choice of literary form underscores the differences between her own approach to crafting a tragic story and that taken in the dramatic tragedies, with their artificial distinction between the public and private spheres. Behn's novels engage in the political dialogue of her era by demonstrating that the good of the nation ultimately encompasses more than the good of the public figures who rule it.

9. The passage is primarily concerned with

Ⓐ tracing how Behn's view of the nature of tragedy changed over time

Ⓑ explaining one author's view of Behn's contribution to the development of an emerging literary form

Ⓒ differentiating between the early and the late literary works of Behn

Ⓓ contrasting the approaches to tragedy taken by Behn and by Dryden

Ⓔ presenting one scholar's explanation for a major development in Behn's literary career

10. The passage suggests that Carnell sees Behn's novels featuring male protagonists as differing from dramatic tragedies such as Dryden's featuring male protagonists in that the former

    Ⓐ depict these characters as less than heroic in their public actions

    Ⓑ emphasize the consequences of these characters' actions in the private sphere

    Ⓒ insist on a parallel between the public and the private spheres

    Ⓓ are aimed at a predominantly female audience

    Ⓔ depict family members who disobey these protagonists

11. The passage suggests that Carnell believes Behn held which of the following attitudes about the relationship between the private and public spheres?

    Ⓐ The private sphere is more appropriate than is the public sphere as the setting for plays about political events.

    Ⓑ The structure of the private sphere should not replicate the hierarchical order of the public sphere.

    Ⓒ Actions in the private sphere are more fundamental to ensuring the good of the nation than are actions in the public sphere.

    Ⓓ Crimes committed in the private sphere are likely to cause tragedy in the public sphere rather than vice versa.

    Ⓔ The private sphere is the mirror in which issues affecting the public sphere can most clearly be seen.

12. It can be inferred from the passage that the "artificial distinction" (lines 53-54) refers to the

    Ⓐ practice utilized in dramatic tragedies of providing different structural models for the public and the private spheres

    Ⓑ ideology of many dramatic tragedies that advocate passive obedience only in the private sphere and not in the public sphere

    Ⓒ convention that drama ought to concern events in the public sphere and that novels ought to concern events in the private sphere

    Ⓓ assumption made by the authors of conventional dramatic tragedies that legitimate tragic action occurs only in the public sphere

    Ⓔ approach taken by the dramatic tragedies in depicting male and female characters differently, depending on whether their roles were public or private

GO ON TO THE NEXT PAGE.

Questions 13 and 14 are based on this passage.

Computers cannot accurately predict climate change unless the mathematical equations fed into them adequately capture the natural meteorological processes they are intended to simulate. Moreover, there are processes that influence climate, such as modifications in land use, that scientists do not know how to simulate. The failure to incorporate such a process into a computer climate model can lead the model astray because a small initial effect can initiate a feedback cycle: a perturbation in one variable modifies a second variable, which in turn amplifies the original disturbance. An increase in temperature, for example, can boost the moisture content of the atmosphere, which then causes further warming because water vapor is a greenhouse gas.

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

13. The passage mentions which of the following as adversely affecting the accuracy of computer predictions of climate change?

    Ⓐ Failure to allow for some of the processes that influence climate

    Ⓑ Mathematical equations that do not accurately reflect natural phenomena

    Ⓒ An overestimate of the role of feedback cycles

14. In the context in which it appears, "amplifies" (line 11) most nearly means

    Ⓐ exacerbates

    Ⓑ explicates

    Ⓒ expatiates

    Ⓓ adds detail to

    Ⓔ makes louder

Question 15 is based on this passage.

Extensive housing construction is underway in Pataska Forest, the habitat of a large population of deer. Because deer feed at the edges of forests, these deer will be attracted to the spaces alongside the new roads being cut through Pataska Forest to serve the new residential areas. Consequently, once the housing is occupied, the annual number of the forest's deer hit by cars will be much higher than before construction started.

15. Which of the following is an assumption on which the argument depends?

    Ⓐ The number of deer hit by commercial vehicles will not increase significantly when the housing is occupied.

    Ⓑ Deer will be as attracted to the forest edge around new houses as to the forest edge alongside roads.

    Ⓒ In years past, the annual number of deer that have been hit by cars on existing roads through Pataska Forest has been very low.

    Ⓓ The development will leave sufficient forest to sustain a significant population of deer.

    Ⓔ No deer hunting will be allowed in Pataska Forest when the housing is occupied.

For each of Questions 16 to 19, 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.

16. Female video artists' rise to prominence over the past 30 years has _____ the ascent of video as an art form: it is only within the past three decades that video art has attained its current, respected status.

(A) matched

(B) politicized

(C) paralleled

(D) obviated

(E) accelerated

(F) forestalled

17. The report's most significant weakness is its assumption that the phenomenon under study is _____, when in reality it is limited to a specific geographic area.

(A) unusual

(B) exceptional

(C) ubiquitous

(D) absolute

(E) universal

(F) restricted

18. The spy's repeated bungling was, above all else, _____ those who wished to thwart her efforts, since it was so unpredictable as to obscure any pattern that might otherwise lead to her capture.

(A) an obstacle to

(B) a signal to

(C) a hindrance to

(D) an indication for

(E) a snare for

(F) a boon to

19. Each member of the journalistic pair served as _____ the other: each refrained from publishing a given piece if the other doubted that it was ready to be printed.

(A) a check on

(B) an advocate for

(C) an impediment to

(D) a brake on

(E) an apologist for

(F) an intermediary for

GO ON TO THE NEXT PAGE.

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

Questions 20 and 21 are based on this passage.

While chocolate was highly esteemed in Mesoamerica, where it originated, its adoption in Europe was initially slow. There is a common belief that Europeans needed to "transform" chocolate to make it appetizing. However, while Spaniards did put sugar, which was unknown to indigenous Americans, into chocolate beverages, this additive was not completely innovative. Mesoamericans were already sweetening chocolate with honey, and the step from honey to sugar—increasingly more available than honey because of expanding sugar plantations in the Americas—is a small one. Likewise, although Spaniards adjusted Mesoamerican recipes by using European spices, the spices chosen suggest an attempt to replicate harder-to-find native flowers. There is no indication the Spaniards deliberately tried to change the original flavor of chocolate.

Line 5 *10* *15*

20. The author of the passage refers to the use of honey primarily to

Ⓐ identify the origins of an additive previously untried by Europeans

Ⓑ present an example of a product that was unknown to Europeans

Ⓒ correct the misapprehension that Mesoamericans used a sweetener that was not available in Europe

Ⓓ provide an example of an ingredient that was in the process of being displaced by a substitute

Ⓔ explain why the Spanish use of sugar in chocolate was not a sign of a need to transform chocolate

21. Which sentence presents a misconception that the passage challenges?

Ⓐ The second ("There is . . . . appetizing")

Ⓑ The third ("However . . . . innovative")

Ⓒ The fourth ("Mesoamericans . . . . one")

Ⓓ The fifth ("Likewise . . . . flowers")

Ⓔ The sixth ("There is . . . . chocolate")

Questions 22 and 23 are based on this passage.

Biologists generally agree that birds and dinosaurs are somehow related to one another. The agreement ends there. Hypotheses regarding dinosaurian and avian evolution are unusually diverse—and often at odds with one another. Confusion consequently reigns over a broad spectrum of unanswered questions dealing with avian origins and the biology of dinosaurs and early birds. This confusion has been exacerbated by a paucity of serious attempts to synthesize and evaluate available data on the details of avian and dinosaurian evolution. Too often, the job of summarizing current knowledge of these subjects has fallen to well-meaning but naïve lay authors or reporters. Consequently, both the public and the scientific community have often been misled by widespread dissemination of sensational but weakly founded hypotheses.

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

22. The passage suggests that which of the following could help remedy the problem described in the final sentence (lines 14-17)?

    - [A] An article written by a biologist for the general public summarizing current theories about avian and dinosaurian evolution
    - [B] A close examination of available data on avian and dinosaurian evolution
    - [C] A new hypothesis regarding the connection between avian and dinosaurian evolution

23. In the context in which it appears, "sensational" (line 16) most nearly means

    - (A) dramatic
    - (B) false
    - (C) excellent
    - (D) eminent
    - (E) horrifying

GO ON TO THE NEXT PAGE.

Questions 24 and 25 are based on this passage.

A portrait type that appeared with relentless frequency in eighteenth-century England is the familiar image of a gentleman poised with one hand inside his partially unbuttoned waistcoat. Standard interpretations of this portrait posture offer observations of correspondence—demonstrating either that it mirrors actual social behavior or that it borrows from classical statuary. Such explanations, however, illuminate neither the source of this curious convention nor the reason for its popularity. It is true that in real life the "hand-in" was a common stance for elite men. Still, there were other ways of comporting the body that did not become winning portrait formulas. And even if the "hand-in" portrait does resemble certain classical statues, what accounts for the adoption of this particular pose?

24. In the context of the passage as a whole, the primary function of the sentence in lines 10-12 ("It is . . . men") is to

Ⓐ emphasize the influence of a particular social class on the conventions of eighteenth-century English portraiture

Ⓑ account for the origin of a particular type of behavior frequently represented in eighteenth-century English portraiture

Ⓒ acknowledge a historical basis for two competing hypotheses about a particular portrait type

Ⓓ question the relevance of certain evidence frequently cited in support of an explanation for a particular portrait type

Ⓔ concede that one explanation for the prevalence of a particular portrait type has a basis in fact

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

25. Which of the following might provide an explanation for the popularity of hand-in portraits that would satisfy the author of the passage?

Ⓐ An eighteenth-century English etiquette manual discussing the social implications of the "hand-in" stance

Ⓑ A comprehensive catalogue of eighteenth-century English portraits that showed what proportion of portraits depicted gentlemen in the "hand-in" stance

Ⓒ A passage from an eighteenth-century English novel in which a gentleman considers what stance to adopt when his portrait is painted

S T O P

If you finish before time is called, you may check your work on this section only.

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.

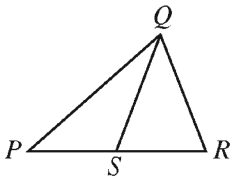
Graphical data presentations, such as bar graphs, circle graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values by sight or by measurement.

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.

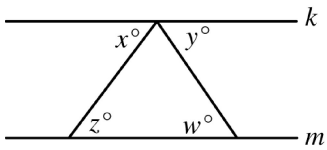
	Quantity A	Quantity B	Correct Answer
Example 1:	(2)(6)	2 + 6	(A) (B) (C) (D)



	Quantity A	Quantity B	Correct Answer
Example 2:	*PS*	*SR*	(A) (B) (C) (D) (since equal lengths cannot be assumed, even though *PS* and *SR* appear equal)

GO ON TO THE NEXT PAGE.

(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.



Line k is parallel to line m.

	Quantity A	Quantity B	
1.	$x + y$	$w + z$	Ⓐ Ⓑ Ⓒ Ⓓ

In a decimal number, a bar over one or more consecutive digits means that the pattern of digits under the bar repeats without end. For example, $0.\overline{387} = 0.387387387\ldots$

	Quantity A	Quantity B	
2.	$0.\overline{717}$	$0.\overline{71}$	Ⓐ Ⓑ Ⓒ Ⓓ

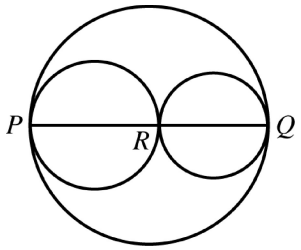
---

4 percent of s is equal to 3 percent of t, where $s > 0$ and $t > 0$.

	Quantity A	Quantity B	
3.	s	t	Ⓐ Ⓑ Ⓒ Ⓓ

GO ON TO THE NEXT PAGE.

(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.



Three circles with their centers on line segment PQ are tangent at points P, R, and Q, where point R lies on line segment PQ.

	Quantity A	Quantity B	
4.	The circumference of the largest circle	The sum of the circumferences of the two smaller circles	Ⓐ Ⓑ Ⓒ Ⓓ

$$rt < 0 < -r$$

	Quantity A	Quantity B	
5.	t	0	Ⓐ Ⓑ Ⓒ Ⓓ

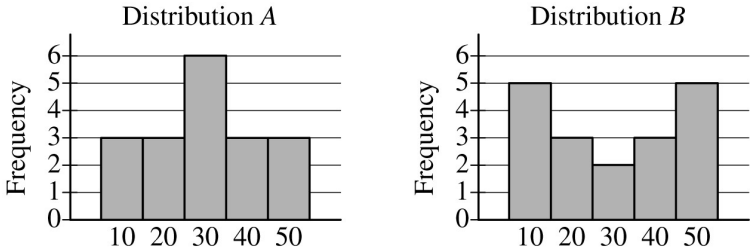
$$x > y$$

	Quantity A	Quantity B	
6.	$\lvert x + y \rvert$	$\lvert x - y \rvert$	Ⓐ Ⓑ Ⓒ Ⓓ

(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.

In the xy-plane, the points $(a, 0)$ and $(0, b)$ are on the line whose equation is $y = \frac{1}{2}x + 10$.

	Quantity A	Quantity B	
7.	a	b	Ⓐ Ⓑ Ⓒ Ⓓ



The frequency distributions shown above represent two groups of data. Each of the data values is a multiple of 10.

	Quantity A	Quantity B	
8.	The standard deviation of distribution A	The standard deviation of distribution B	Ⓐ Ⓑ Ⓒ Ⓓ

One person is to be selected at random from a group of 25 people. The probability that the selected person will be a male is 0.44, and the probability that the selected person will be a male who was born before 1960 is 0.28.

	Quantity A	Quantity B	
9.	The number of males in the group who were born in 1960 or later	4	Ⓐ Ⓑ Ⓒ Ⓓ

GO ON TO THE NEXT PAGE.

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

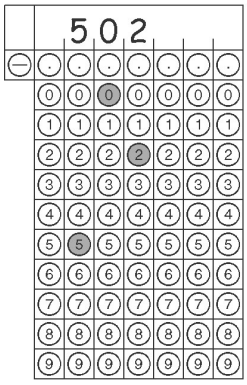
Numeric Entry Questions

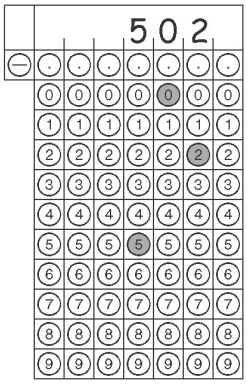
To answer these questions, enter a number by filling in circles in a grid.

- 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. 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 available.
- 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.**

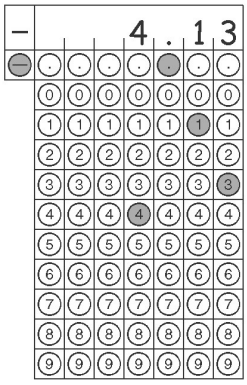
Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

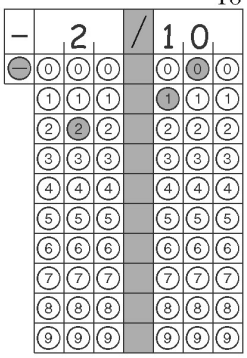




Decimal answer: −4.13

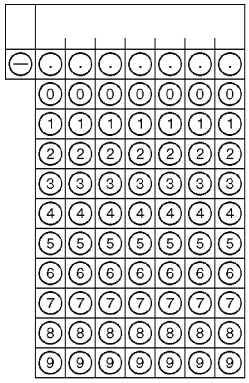


Fraction answer: $-\frac{2}{10}$



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

10. At Company Y, the ratio of the number of female employees to the number of male employees is 3 to 2. If there are 150 female employees at the company, how many male employees are there at the company?



male employees

11. If $\dfrac{a-b}{a+b} = 2$ and $b = 1$, what is the value of a ?

Ⓐ 1

Ⓑ 0

Ⓒ -1

Ⓓ -2

Ⓔ -3

12. The floor space in a certain market is rented for \$15 per 30 square feet for one day. In the market, Alice rented a rectangular floor space that measured 8 feet by 15 feet, and Betty rented a rectangular floor space that measured 15 feet by 20 feet. If each woman rented her floor space for one day, how much more did Betty pay than Alice?

Ⓐ \$27

Ⓑ \$36

Ⓒ \$54

Ⓓ \$90

Ⓔ \$180

13. A business owner obtained a \$6,000 loan at a simple annual interest rate of r percent in order to purchase a computer. After one year, the owner made a single payment of \$6,840 to repay the loan, including the interest. What is the value of r ?

Ⓐ 7.0

Ⓑ 8.4

Ⓒ 12.3

Ⓓ 14.0

Ⓔ 16.8

GO ON TO THE NEXT PAGE.

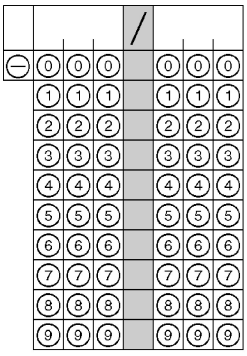
For the following question, use the grid to enter your answer.

List L: $2, x, y$

List M: $1, 2, 3, x, y$

14. If the average (arithmetic mean) of the 3 numbers in list L is $\frac{10}{3}$, what is the average of the 5 numbers in list M ?

    Give your answer as a fraction.



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

15. Which of the following inequalities have at least one positive solution and at least one negative solution?

    Indicate all such inequalities.

    ☐ Ⓐ $\frac{5}{3}x < x$

    ☐ Ⓑ $x^3 < x$

    ☐ Ⓒ $x - 6 < x - 7$

16. If $(5^{5x})(25) = 5^n$, where n and x are integers, what is the value of n in terms of x ?

    Ⓐ $5x + 1$

    Ⓑ $5x + 2$

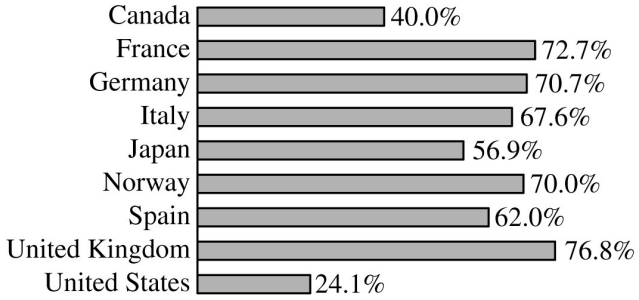
    Ⓒ $5x + 5$

    Ⓓ $10x$

    Ⓔ $10x + 2$

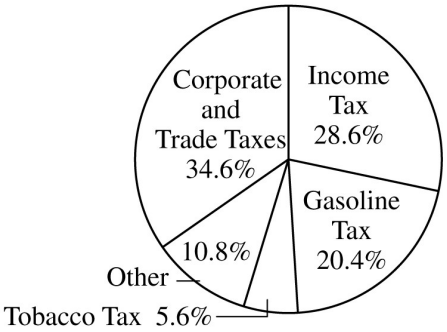
Questions 17 to 20 are based on the following data.

GASOLINE TAX REVENUE AS A PERCENT OF TOTAL RETAIL GASOLINE SALES* IN 2000



*Total retail sales include tax.

DISTRIBUTION OF GERMANY'S TOTAL TAX REVENUE IN 2000



17. What is the median of the percent values representing gasoline tax revenue as a percent of total retail gasoline sales for the nine countries listed in the bar graph?

Ⓐ 67.6%

Ⓑ 68.0%

Ⓒ 70.0%

Ⓓ 70.7%

Ⓔ 72.7%

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

18. Based on the information given, which of the following statements must be true?

Indicate all such statements.

☐ Ⓐ In 2000 France's gasoline tax revenue as a percent of its total tax revenue was greater than 20.4 percent.

☐ Ⓑ In 2000 the price per gallon of gasoline was greater in Norway than it was in Spain.

☐ Ⓒ In 2000 Germany's gasoline tax revenue was more than 3 times its tobacco tax revenue.

19. In 2000 the amount of Germany's gasoline tax revenue was approximately what percent less than the amount of its income tax revenue?

Ⓐ 10%

Ⓑ 20%

Ⓒ 30%

Ⓓ 40%

Ⓔ 50%

20. If Germany's total tax revenue in 2000 was approximately $170 billion, approximately what was the amount of the total retail gasoline sales in Germany that year?

Ⓐ $10 billion

Ⓑ $20 billion

Ⓒ $30 billion

Ⓓ $40 billion

Ⓔ $50 billion

GO ON TO THE NEXT PAGE.

21. Of the 180 judges appointed by a certain President, 30 percent were women and 25 percent were from minority groups. If $\frac{1}{9}$ of the women appointed were from minority groups, how many of the judges appointed were neither women nor from minority groups?

Ⓐ 75

Ⓑ 81

Ⓒ 87

Ⓓ 93

Ⓔ 99

22. If an integer is divisible by both 8 and 15, then the integer also must be divisible by which of the following?

Ⓐ 16

Ⓑ 24

Ⓒ 32

Ⓓ 36

Ⓔ 45

23. A certain experiment has three possible outcomes. The outcomes are mutually exclusive and have probabilities p, $\frac{p}{2}$, and $\frac{p}{4}$, respectively. What is the value of p ?

Ⓐ $\frac{1}{7}$

Ⓑ $\frac{2}{7}$

Ⓒ $\frac{3}{7}$

Ⓓ $\frac{4}{7}$

Ⓔ $\frac{5}{7}$

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

24. In triangle ABC, the measure of angle B is 90°, the length of side AB is 4, and the length of side BC is x. If the length of hypotenuse AC is between 4 and 8, which of the following could be the value of x ?

Indicate all such values.

☐ Ⓐ 1

☐ Ⓑ 2

☐ Ⓒ 3

☐ Ⓓ 4

☐ Ⓔ 5

☐ Ⓕ 6

25. Each month, a certain manufacturing company's total expenses are equal to a fixed monthly expense plus a variable expense that is directly proportional to the number of units produced by the company during that month. If the company's total expenses for a month in which it produces 20,000 units are $570,000, and the total expenses for a month in which it produces 25,000 units are $705,000, what is the company's fixed monthly expense?

Ⓐ $27,000

Ⓑ $30,000

Ⓒ $67,500

Ⓓ $109,800

Ⓔ $135,000

STOP

If you finish before time is called, you may check your work on this section only.

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.

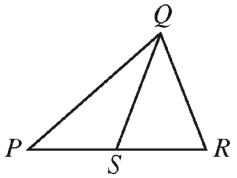
Graphical data presentations, such as bar graphs, circle graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values by sight or by measurement.

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.

	Quantity A	Quantity B	Correct Answer
Example 1:	(2)(6)	2 + 6	● Ⓑ Ⓒ Ⓓ



	Quantity A	Quantity B	Correct Answer
Example 2:	*PS*	*SR*	Ⓐ Ⓑ Ⓒ ● (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.

The length of each side of equilateral triangle T is 6 times the length of each side of equilateral triangle X.

	Quantity A	Quantity B	
1.	The ratio of the length of one side of T to the length of another side of T	The ratio of the length of one side of X to the length of another side of X	Ⓐ Ⓑ Ⓒ Ⓓ

Of 30 theater tickets sold, 20 tickets were sold at prices between \$10 and \$30 each and 10 tickets were sold at prices between \$40 and \$60 each.

	Quantity A	Quantity B	
2.	The average (arithmetic mean) of the prices of the 30 tickets	\$50	Ⓐ Ⓑ Ⓒ Ⓓ

$x > 1$

	Quantity A	Quantity B	
3.	$\dfrac{x}{x+1}$	$\dfrac{-x}{1-x}$	Ⓐ Ⓑ Ⓒ Ⓓ

GO ON TO THE NEXT PAGE.

(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.

In the xy-plane, the point $(1, 2)$ is on line j, and the point $(2, 1)$ is on line k. Each of the lines has a positive slope.

	Quantity A	Quantity B	
4.	The slope of line j	The slope of line k	Ⓐ Ⓑ Ⓒ Ⓓ

T is a list of 100 different numbers that are greater than 0 and less than 50. The number x is greater than 60 percent of the numbers in T, and the number y is greater than 40 percent of the numbers in T.

	Quantity A	Quantity B	
5.	$x - y$	20	Ⓐ Ⓑ Ⓒ Ⓓ

---

n is a positive integer.

	Quantity A	Quantity B	
6.	The remainder when n is divided by 5	The remainder when $n + 10$ is divided by 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.

A right circular cylinder with radius 2 inches has volume 15 cubic inches.

	Quantity A	Quantity B	
7.	The height of the cylinder	2 inches	Ⓐ Ⓑ Ⓒ Ⓓ

---

k is an integer for which $\frac{1}{2^{1-k}} < \frac{1}{8}$.

	Quantity A	Quantity B	
8.	k	-2	Ⓐ Ⓑ Ⓒ Ⓓ

---

n is an integer greater than 0.

	Quantity A	Quantity B	
9.	The number of different prime factors of $9n$	The number of different prime factors of $8n$	Ⓐ Ⓑ Ⓒ Ⓓ

GO ON TO THE NEXT PAGE.

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

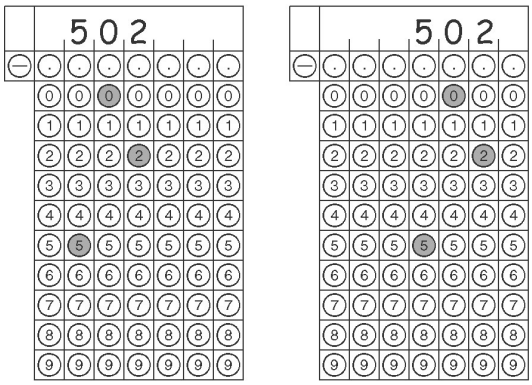
Numeric Entry Questions

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

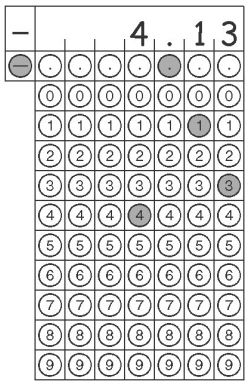
- Your answer may be an integer, a decimal, or a fraction, and it may be negative.
- Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
- Enter the exact 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 available.
- 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:

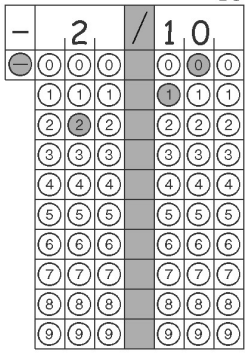
Integer answer: 502 (either position is correct)



Decimal answer: −4.13



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



10. Working at their respective constant rates, machine I makes 240 copies in 8 minutes and machine II makes 240 copies in 5 minutes. At these rates, how many more copies does machine II make in 4 minutes than machine I makes in 6 minutes?

Ⓐ 10

Ⓑ 12

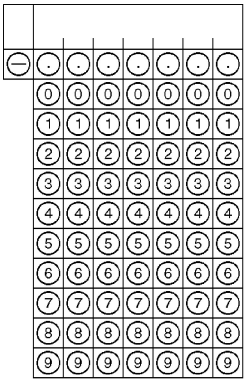
Ⓒ 15

Ⓓ 20

Ⓔ 24

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

11. Among the people attending a convention in Europe, 32 percent traveled from Asia and 45 percent of those who traveled from Asia are women. What percent of the people at the convention are women who traveled from Asia?



%

12. In the xy-plane, points R and S have coordinates $(-2, 1)$ and $(4, -7)$, respectively. If point P is the midpoint of line segment RS, what are the coordinates of point P ?

Ⓐ $(-1, -3)$

Ⓑ $(1, -4)$

Ⓒ $(1, -3)$

Ⓓ $(2, -4)$

Ⓔ $(3, -4)$

13. Steve's property tax is \$140 less than Patricia's property tax. If Steve's property tax is \$1,960, then Steve's property tax is what percent less than Patricia's property tax, to the nearest 0.1 percent?

Ⓐ 6.7%

Ⓑ 7.1%

Ⓒ 7.5%

Ⓓ 7.9%

Ⓔ 8.3%

GO ON TO THE NEXT PAGE.

14. A base of a triangle has length b, the altitude corresponding to the base has length h, and $b = 2h$. Which of the following expresses the area of the triangle, in terms of h ?

Ⓐ $\frac{1}{2}h^2$

Ⓑ $\frac{3}{4}h^2$

Ⓒ h^2

Ⓓ $\frac{3}{2}h^2$

Ⓔ $2h^2$

15. How many different two-digit positive integers are there in which the tens digit is greater than 6 and the units digit is less than 4 ?

Ⓐ 7

Ⓑ 9

Ⓒ 10

Ⓓ 12

Ⓔ 24

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

16. Chris entered a number in his calculator and erroneously multiplied the number by 2,073 instead of 2.073, getting an incorrect product. Which of the following is a single operation that Chris could perform on his calculator to correct the error?

Indicate all such operations.

☐ Ⓐ Multiply the incorrect product by 0.001

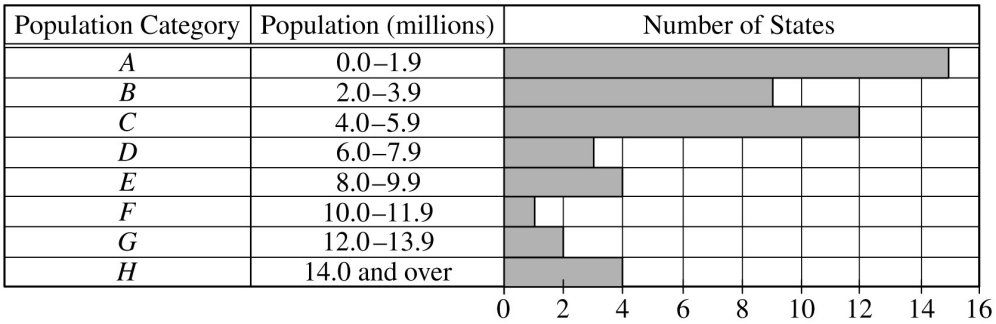
☐ Ⓑ Divide the incorrect product by 0.001

☐ Ⓒ Multiply the incorrect product by 1,000

☐ Ⓓ Divide the incorrect product by 1,000

Questions 17 to 20 are based on the following data.

DISTRIBUTION OF THE 50 STATES OF THE UNITED STATES BY POPULATION,* 2000



*Population of each state is rounded to the nearest 0.1 million.

17. How many of the 50 states were in the five population categories from *A* through *E* ?

Ⓐ 47

Ⓑ 43

Ⓒ 35

Ⓓ 20

Ⓔ 19

18. In 2000 the population of West Virginia was 1.8 million. If the ratio of the population of Georgia to that of West Virginia was 9 to 2, in which population category was Georgia?

Ⓐ *B*

Ⓑ *C*

Ⓒ *D*

Ⓓ *E*

Ⓔ *F*

19. The number of states in the two population categories *C* and *D* was approximately what percent greater than the number in the four population categories from *E* through *H* ?

Ⓐ 36%

Ⓑ 33%

Ⓒ 30%

Ⓓ 27%

Ⓔ 20%

20. The median of the 50 state populations was in which population category?

Ⓐ *A*

Ⓑ *B*

Ⓒ *C*

Ⓓ *D*

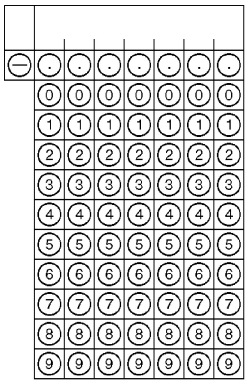
Ⓔ *E*

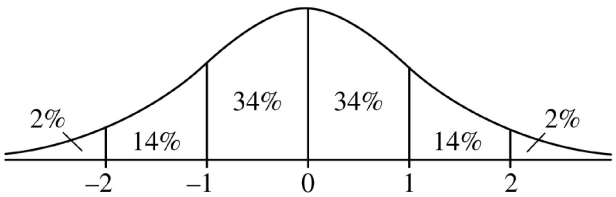
GO ON TO THE NEXT PAGE.

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

21. If $\sqrt[3]{x} = 3$ and $x = \sqrt{y}$, what is the value of y ?

$y =$





22. The figure shows the standard normal distribution, with mean 0 and standard deviation 1, including approximate percents of the distribution corresponding to the six regions shown.

Ian rode the bus to work last year. His travel times to work were approximately normally distributed, with a mean of 35 minutes and a standard deviation of 5 minutes. According to the figure shown, approximately what percent of Ian's travel times to work last year were less than 40 minutes?

(A) 14%

(B) 34%

(C) 60%

(D) 68%

(E) 84%

23. For all integers x, the function f is defined as follows.

$$f(x) = \begin{cases} x - 1 & \text{if } x \text{ is even} \\ x + 1 & \text{if } x \text{ is odd} \end{cases}$$

If a and b are integers and $f(a) + f(b) = a + b$, which of the following statements must be true?

Ⓐ $a = b$

Ⓑ $a = -b$

Ⓒ $a + b$ is odd.

Ⓓ Both a and b are even.

Ⓔ Both a and b are odd.

24. If $y^{-2} + 2y^{-1} - 15 = 0$, which of the following could be the value of y ?

Ⓐ 3

Ⓑ $\frac{1}{5}$

Ⓒ $-\frac{1}{5}$

Ⓓ $-\frac{1}{3}$

Ⓔ -5

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

$3.7, 4.1, a, 8.5, 9.2, 2a$

25. The six numbers shown are listed in increasing order. Which of the following values could be the range of the six numbers?

Indicate all such values.

Ⓐ 4.0

Ⓑ 5.2

Ⓒ 7.3

Ⓓ 11.6

Ⓔ 12.9

Ⓕ 14.1

STOP

If you finish before time is called, you may check your work on this section only.

Appendix A

Analytical Writing Scoring Guides and Score Level Descriptions

GRE Scoring Guide: Analyze an Issue

Score 6 – Outstanding

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 – Strong

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 – Adequate

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 acceptable clarity
- generally demonstrates control of the conventions of standard written English but may have some errors

Score 3 – Limited

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 limited in focus and/or organization
- 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)

Score 2 – Seriously Flawed

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 poorly focused and/or poorly organized
- 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– Fundamentally Deficient

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 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 – Off Topic

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.

Score NS – Blank

GRE Scoring Guide: Analyze an Argument

Score 6 – Outstanding

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

Score 5 – Strong

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

Score 4 – Adequate

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 acceptable clarity
- generally demonstrates control of the conventions of standard written English, but may have some errors

Score 3 – Limited

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

GRE Scoring Guide: Analyze an Argument (continued)

Score 2 – Seriously Flawed

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 – Fundamentally Deficient

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 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 – Off Topic

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.

Score NS – Blank

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 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 91–92), 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, essentally transforming us into dependent, conformist morons best equipped to sideswip 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 comsumerism 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 T\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 pages 91–92), 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 with out the invention of the internet. Think what an impact the printing press, a technologically superior mackine 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 definately a good thing. Our ability to think for ourselves isn't deteriorating, it's continuing to grow, moving on to higher though 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 dibilitating 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 enviroments 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 regularily 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 occured 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 couses 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] couses 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 deterioating.

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 afffected 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 goverment 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 arguement 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 arguement is correct in assuming that the Mason River will be used more by the city's residents, the arguement 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 arguement, 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 alloted 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 soley be 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 accomodate 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 facilites. 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 ralation between the first sentence and the setence 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 reponse 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 setences 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. They 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 Topic

> "The best way for a society to prepare its young people for leadership in government, industry, or other fields is by instilling in them a sense of cooperation, not competition."
>
> 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 or examples that could be used to challenge your position.

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

Essay Response – Score 6

Whenever people argue that history is a worthless subject or that there is nothing to be gained by just "memorizing a bunch of stupid names and dates," I simply hold my tongue and smile to myself. What I'm thinking is that, as cliche as it sounds, you do learn a great deal from history (and woe to those who fail to learn those lessons). It is remarkable to think of the number of circumstances and situations in which even the most rudimentary knowledge of history will turn out to be invaluable. Take, for example, the issue at hand here. Is it better for society to instill in future leaders a sense of competition or cooperation? Those who have not examined leaders throughout time and across a number of fields might not have the ability to provide a thorough and convincing answer to this question, in spite of the fact that it is crucial to the future functioning of our society. Looking closely at the question of leadership and how it has worked in the past, I would have to agree that the best way to prepare young people for leadership roles is to instill in them a sense of cooperation.

Let us look first at those leaders who have defined themselves based on their competitiveness. Although at first glance it may appear that a leader must have a competitive edge in order to gain and then maintain a leadership position, I will make two points on this subject. First, the desire to compete is an inherent part of human nature; that is, it is not something that needs to be "instilled" in young people. Is there anyone who does not compete in some way or another every single day? You try to do better than others in your school work or at the office, or you just try to do better than yourself in some way, to push yourself. When societies instill competitiveness in their leaders, it only leads to trouble. The most blatant example in this case is Adolf Hitler, who took competition to the very extreme, trying to prove that his race and his country were superior to all. We do not, however, need to look that far to find less extreme examples (i.e., Hitler is not the extreme example that disproves the rule). The recent economic meltdown was caused in no large part by the leaders of American banks and financial institutions who were obsessed with competing for the almighty dollar. Tiger Woods, the ultimate competitor in recent golfing history and in many ways a leader who brought the sport of golf to an entirely new level, destroyed his personal life (and perhaps his career — still yet to be determined) by his overreaching sense that he could accomplish anything, whether winning majors or sleeping with as many women as possible. His history of competitiveness is well documented; his father pushed him froma very early age to be the ultimate competitor. It served him well in some respects, but it also proved to be detrimental and ultimately quite destructive.

Leaders who value cooperation, on the other ahnd, have historically been less prone to these overreaching, destructive tendencies. A good case in point would be Abraham Lincoln. Now, I am sure at this point you are thinking that Lincoln, who served as President during the Civil War and who refused to compromise with the South or allow secession, could not possibly be my model of cooperation! Think, however, of the way Lincoln structured his Cabinet. He did not want a group of "yes men" who would agree with every word he said, but instead he picked people who were more likely to disagree with his ideas. And he respected their input, which allowed him to keep the government together in the North during a very tumultuous period (to say the least). My point in choosing the Lincoln example is that competitiveness and conflict may play better to the masses and be more likely to be recorded in the history books, but it was his cooperative nature that allowed him to govern effectively. Imagine if

the CEO of a large company were never able to compromise and insisted that every single thing be done in exactly her way. Very quickly she would lose the very people that a company needs in order to survive, people with new ideas, people ready to make great advances. Without the ability to work constructively with those who have conflicting ideas, a leader will never be able to strike deals, reach consensus, or keep an enterprise on track. Even if you are the biggest fish in the pond, it is difficult to force your will on others forever; eventually a bigger fish comes along (or the smaller fish team up against you!).

In the end, it seems most critical for society to instill in young people a sense of cooperation. In part this is true because we seem to come by our competitive side more naturally, but cooperation is more often something we struggle to learn (just think of kids on the playground). And although competitive victory is more showy, more often than not the real details of leadership come down to the ability to work with other people, to compromise and cooperate. Getting to be President of the United States or the managing director of a corporation might require you to win some battles, but once you are there you will need diplomacy and people-skills. Those can be difficult to learn, but if you do not have them, you are likely to be a short-lived leader.

Reader Commentary for Essay Response – Score 6

This outstanding response earns a score of 6 for presenting an insightful position on the issue and supporting its analysis with compelling reasons and persuasive examples. The response takes the insightful position that competition, though necessary to some aspects of leadership, is less important for young people to learn because it is inherent in the human condition and can lead to dangerous excesses, whereas cooperation is more difficult to learn but more essential. The response follows the task directions by using counterarguments in the development of its position. For example, the discussion of Lincoln explores conflicting sides of his Presidency (the "competition" of the Civil War and the "cooperation" within his Cabinet). In fact, the response skillfully explores the nuances of both cooperation and competition, building its position of agreement with the prompt by looking closely at many sides of both concepts. Additionally, the response demonstrates superior facility with language. There are a few minor errors, mainly typos, but in general the response demonstrates excellent sentence variety and diction. This sentence is typical of the quality of the writing throughout the response: "My point in choosing the Lincoln example is that competitiveness and conflict may play better to the masses and be more likely to be recorded in the history books, but it was his cooperative nature that allowed him to govern effectively." In this complex sentence, the writer makes skillful use of parallel structure and subordination. Because of its fluent writing and insightful development, then, this response earns a score of 6.

Essay Response – Score 5

Cooperation, the act of working as a group to achieve a collective goal, is an important value for young childern to learn. Another vital life lesson children can learn is how to be competitive, which is a mindset in which a person feels the need to accomplish more than another person. Both are necessary to become well rounded individuals, but concerning preparing for a future in government, industry or various other fields, a sense of cooperation is much more important.

While not all children are overly competitive in nature, every person has some level of competitive drive inside them. This is a natural thing and is perfectly normal. Unfortunately, if this competitive nature is emphasized, the child will have problems relating socially to other children, and subsequently, will have issues interacting with adults later in life. A fierce competitive drive will blind an individual, causing them to not see situations where group effort will be more greatly rewarded than an individual effort. Take for instance the many teams of people working for NASA. If the people that make up these teams were all out to prove that they were superior to others, our entire space program would be jeapordized. One needs to look beyond the scope of what is best on an individual level and learn to look at what will most benefit a broad group of people. This is where instilling a sense of cooperation in young children is vital. Cooperation is taught at an early age and must be emphasized throughout life to fully embrace the concept.

In the world of sports a competitive drive is vital; unfortunately, life is not a sports game that simply leads to a winning or losing score. Life is far more complex than this simple idea and there is no winner or loser designation to accompany it. We all have to

work together to come to a conclusion that will assist not just ourselves, but others and future generations. In every scenario there will be individuals that have brilliant ideas, but those ideas require other people to build upon, perfect and impliment. Take for instance Bill Gates; Bill Gates is responsible for the Microsoft coorporation which he invented in his garage. His competitive drive assisted in building his idea, but it was the collaborative effort of many people that helped propel his invention into the world known product it is today. Without the cooperation of others, his genius invention might never have made it out of his garage.

It may be true that an individual can change the world, but only so far as to say that an individual can construct an idea that will inevitably change the world. Once an idea is formulated, it then takes a team of people working collectively towards a common goal to make sure that the brillant, life-altering idea makes it to furtuition. Without the cooperation of many, an idea could simply remain as a picture on a drawing board. It is because of this possibility that instilling a cooperative demeanor in children is much more important than developing a competivie attitude. Competition is a natural thing that will develop with or without encouragement but the same cannot be said for a sense of cooperation.

Reader Commentary for Essay Response – Score 5

Arguing that cooperation is less natural and more important for leadership, this response develops a thoughtful position on the issue and conveys meaning clearly and well. For these reasons it earns a score of 5. Note that it does not develop its reasons and examples as thoroughly as the sample 6 does, but it still presents thoughtful analysis using well chosen examples. For example, the discussion of Bill Gates is thoughtful, exploring the ways that both competition (the "competitive drive" that led him to found a company) and cooperation (the "collaborative effort of many people" is what made the company work) were essential to his success as a leader. Throughout the response, then, counterarguments are used to create a nuanced position on the issue. The writer looks at conflicting aspects of competition, which is vital but insufficient for life because life is "more complex" than a sporting event, and cooperation, which is critical but more difficult to learn. In addition, the writer conveys meaning clearly, demonstrating sentence variety and a facility with language that is more than adequate. There are a few minor errors, mainly typos and misspelled words, but language control in this response is more than adequate (e.g., "One needs to look beyond the scope of what is best on an individual level and learn to look at what will most benefit a broad group of people."). Because of its facility with language and its thoughtful position on the issue, this response earns a score of 5.

Essay Response – Score 4

When the generation of today matures, it is important for them to succeed and become the successful leaders in government, industry and other fields. There are many traits that leaders must possess, and cooperation is one of these very important characters. Nonetheless it is important for leaders to have a sense of competition, so as to prevent themselves from being complacent with their position.

Cooperation is needed in order to be a functional person in society, while still adhering to social standards. Most leaders in society, did not start out as such. A person cannot isolate themselves from others with demeanor and attitude and expect to become an executive. While there may be leaders that have developed this ill attitude towards others, they did not get there by being that way. A person who is able to effectively cooperate with others, will subsequently develop a nexus of supporters. Through collaboration, people are able to develop their studies further and better themselves.

However, it is still important for there to be a sense of competition. Competition is the root of motivation for most. It drives us to become stronger, smarter, and to want more. Nonetheless, the spirit of competition must also be reigned in, and not be allowed to run wild. Competitiveness can lead to abuse of power and distasteful actions, which is quite the opposite of someone who displays cooperativeness.

Some may argue that competition is not needed. That those that are meant to be leaders will not become complacent, because they have their own internal drive to lead. If there was no competition, there would be no world records. Michael Phelps may not be a leader of government or industry, but he is certainly educated on the technique of swimming, and leader in his field. Would he be as good as he is today if there was not competition? Would the

leaders of Microsoft have been motivated to create Bing if there was no Google?

Cooperation helped many leaders get where they are today, and will continue to do so in the future. But leaders, as well as those that aspire to be one, all need to have a sense of competition as well.

Reader Commentary for Essay Response – Score 4

This adequate response presents a clear position on the issue in accordance with the assigned task, arguing that both competition and cooperation are important for leaders. The response uses counterarguments both in the construction of its overall position (comparing the value of both competition and cooperation) and in its discussion of the positive and negative aspects of competition. However, the development of ideas in this response is not as thorough or as persuasive as one would expect to see in a response that earns a score of 5 or 6. For instance, the example of Microsoft inventing Bing to compete with Google is certainly relevant, but it is not developed with any thoughtfulness. It is simply stated. Other examples are somewhat more fully developed, but there is also some tangential material (e.g., even the writer seems to understand that Michael Phelps does not quite fit into a discussion of leadership). In addition to its adequate development, this response displays adequate control of language. This response does not have the sentence variety or the skillful diction seen in a response that earns a higher score. There are some minor errors present, but nothing that interferes with clarity. Because this response presents a clear position on the issue, expressing meaning with adequate clarity, it earns a score of 4.

Essay Response – Score 3

Leadership is a tough task to master.To be a leader means you must be better than a bunch of folks and work with them to accomplise a greater goal. Leadership in any feild needs cooperarive effort and a leader must be able to inspire and make the human resourse at hand to work better.In doing so there is a far cry of an immense responsibility.I therefore stand by taking help from inmates to do the same.

Like the say 'when going gets tough the tough gets going'.So there is no point of getting bogged down rather plan more ways to get the work done and one of the sureshot approach is by working together.I believe to the core of my heart that there can be nothing equal to cooperation and unity in a work field. As simple as it sounds if one can do a work in hermit atmosphere at certain efficiency, a number of brains working toghether can be more efficient.An atmosphere where everyone works holding hands and when someone falls there are people to make him stand again makes a much better picture in my mind everytime.

Compitition is not a evil it can inspire some one to work better and looking to do better can be considered good.But am afraid what fear here is that when you compete with someone you set you limits to that person.So once you do better than him/her you tend to be relaxed and that is where when the real evil creeps in.

With cooperation you have a goal and associated effort to work for the same.Rather than individual petty and competition to be better placed than an friend it would be far more appreciable to keep working for the common goal.That way even the goal gets more defined at some level.So lets all drop all this boundaries of indivisualism and keep working for a common goal,and if you want to compete then compete with yourself and get better than what you were yesterday.

Reader Commentary for Essay Response – Score 3

This response displays some competence in presenting a position according to the task directions, but it earns a score of 3 because frequent minor errors do interfere with clarity. The writer agrees with the prompt that cooperation is more important, and it explores some counterarguments in its assertion that competition "can inspire some one to work better and looking to do better can be considered good." However, almost every sentence in this response has at least one minor error. Some of the errors are typos or minor mechanical problems like missing spaces after punctuation. But other errors have more impact on meaning. Missing words, incorrect sentence boundaries, and improper verb forms contribute to a lack of clarity throughout the response. This sentence is typical of the limited language control seen throughout this response: "So there is no point of getting bogged down rather plan more ways to get the work done and one of the sureshot approach is by working together." Because of its limited clarity, then, this response earns a score of 3.

Essay Response – Score 2

Both a sense of cooperation and competition is needed to be a good leader. If one is focused on

competition and ignores or refuse to work with others then there would be problems for that leader. A leader needs to be able to get along, cooperate and know how to interact with others and allies. Treaties and allies require cooperation. Trade agreements and aid as well. A leader cannot achieve much alone.

Competition is also needed to encourage people to be the best. If no one does there best to obtain a goal how would a leader be chosen. What kind of leader would that make? The best way for a society to prepare its young is to instill a sense of both competition and cooperation.

Reader Commentary for Essay Response – Score 2

This response earns a score of 2 for its seriously limited development. There is a clear position on the issue, as the writer argues that the "best way for a society to prepare its young is to instill a sense of both competition and cooperation." However, the writer provides few, if any, relevant reasons or examples to support and develop this position. The discussion of cooperation is supported only by very generic assertions like the notion that "treaties and allies require cooperation." And there is even less development in the discussion of competition. In order to receive a higher score, the response would need to provide more support for its position. Language control in this response is adequate, but the response earns a score of 2 because of its seriously limited development.

Essay Response – Score 1

Best way for a socity to prepare it's young people for leadership in government, industry, or other fields is by instilling in them a sense of coopertion, not competition. This statement is very true, whether we mean leadership in government, industry, or any other fields.

For leadership in government, industry, or other fields some people argue that the best way for society to prepare it's young people is by instilling in them a sense of cooperation. Other people argue that the best way is through competition. It can be difficult for many people to decide between these two choices. There are many arguments that support both sides. I fully agree that the best way is to instilling in them a sense of cooperation, not competition.

Reader Commentary for Essay Response – Score 1

This response earns a score of 1 because it demonstrates little evidence of the ability to develop a position on the issue. Instead of developing a position, the response simply repeats the language of the prompt, adding some generic language that could be applied to any Issue prompt. For example, consider these sentences: "It can be difficult for many people to decide between these two choices. There are many arguments that support both sides." This is a totally generic analytical framework that has not been filled in with any specific exploration related to this prompt. The writer is clearly making an attempt to respond to the prompt, and the final sentence does seem to indicate a position on the issue. So the response does not merit a score of 0. However, the vast majority of the response is simply repetition of language from the prompt and/or generic material. Thus, it earns a score of 1.

Argument Task Essay Responses and Reader Commentary

Argument Topic

> The following is taken from a memo from the advertising director of the Super Screen Movie Production Company.
>
> "According to a recent report from our marketing department, during the past year, fewer people attended Super Screen-produced movies than in any other year. And yet the percentage of positive reviews by movie reviewers about specific Super Screen movies actually increased during the past year. Clearly, the contents of these reviews are not reaching enough of our prospective viewers. Thus, the problem lies not with the quality of our movies but with the public's lack of awareness that movies of good quality are available. Super Screen should therefore allocate a greater share of its budget next year to reaching the public through advertising."
>
> 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.

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

Essay Response – Score 6

The advertising director of the Super Screen Movie production company believes that increasing the

amount of advertising the company does will increase the amount of people attending Super Screen produced movies. He believes this because during the past year fewer people than ever before attended Super Screen produced movies, yet the percentage of positive reviews about specific Super Screen produced movies increased over the past year. Ostensibly the extra advertising would tout the good reviews written about Super Screen movies. Before this plan is implemented, however, Super Screen needs to address some questions about its possible flaws.

First of all, the company needs to ask what the actual number of people attending its movies as compared to the movies of other production companies is. The number of people going to movies may have been in universal decline. If this is the case and more people are going to see Super Screen Movies than the movies of any other production company, advertising about how fun it is to go to the movie theater may do more to boost Super Screen viewership than advertising promoting its own good reviews.

Secondly, the company needs to ask what the actual original number of positive reviews was. If Super Screen movies recieved 1% positive reviews last year and this year they recieved 2% positive reviews, getting that message to viewers is not going to increase Super Screen attendence. Making better movies would be much more likely to increase attendence rates.

Finally, Super Screen needs to ask what the relationship is between its viewers and the movie reviewers cited in the memo. Using a survey distributed to its target audience, Super Screen could determine if movie reviews have an effect on their audience's decision to go see a movie, whether movie reviewers tended to have the same taste as the target audience and exactly whether or not movie reviews are reaching the audience. Super Screen also needs to consider how its movie choices have affected the separate movie reviewer and audience populations. If the studio has switched from making mega-blockbuster action movies to more nuanced dramas, the general public may be less willing to go see their movies even though movie critics prefer the dramas to the action movies.

Finally the studio must ask whether the percentage of positive reviews is really a relevant way to measure the potential impact of movie reviews. There are dozens of movie reviewers but when deciding whether to not to go to a movie, the general public will usually pick from among the 10 most popular movie reviews. These are the reviews that will impress the public if they are included in advertising. If the most popular movie reviewers disliked Super Screen movies that a larger number of small time film bloggers reviewed positively, Super Screen needs to think of a new advertising strategy.

In conclusion, there are many questions Super Screen needs to answer before using this advertising director's plan. They need to look carefully at actual numbers, both of viewership and of positive reviews. The also need to identify the relationship that their target audience has with movie reviewers and determine how their target audience feels about their movies. Fianlly they need to take a nuanced look at the movie reviews that they use in their advertising.

Reader Commentary for Essay Response – Score 6

This response clearly identifies aspects of the argument relevant to the assigned task and provides insightful, thoroughly developed analysis. Thus, it earns a score of 6. The response is clearly on task, examining the questions that would need to be answered in order to determine if the recommendation is reasonable. In each case, the writer perceptively explores the nuances of the question, showing different ways in which the answers to those questions might have an impact on the recommendation. For example, the first body paragraph looks at the issue of overall movie attendance, exploring the possibility that Super Screen might actually be doing better than other production companies. If that is the case, perhaps Super Screen's advertising is already effective, and the proposed plan to increase advertising would not have the intended effect. Throughout the response, the analysis is detailed and cogent, and the organization of the response is logical both within paragraphs and between paragraphs. In addition, although there are a few misspelled words, the response demonstrates facility with language, conveying ideas fluently and precisely. Sentences like this one demonstrate the superior control of the conventions of standard written English seen throughout this response: "If this is the case and more people are going to see Super Screen Movies than the movies of any other production company, advertising about how fun it is to go to the movie theater may do more to boost Super Screen viewership than

advertising promoting its own good reviews." Because of its fluent language and insightful analysis, this response earns a score of 6.

Essay Response – Score 5

While the advertising director clearly aims at relitalizing his production company and ensuring that the public is well informed about the movies which are available, there are several basic flaws to his argument . There remain some questions that need answering before any steps can be taken with regard to advertising strategies for the Super Screen Movie Production Company.

First among these questions is this; were ticket sales of the entire movie industry down? This is an essential question because it helps to pinpoint the cause of the writer's problem. If the industry as a whole is undergoing poor revenues, then perhaps the issue is not Super Screen's advertising company but rather the country's economy. In times of economic strife, it is only natural that people would be less willing to spend money on luxuries such as movie tickets. If this is the case, it might better suit the production company to cut costs rather than refunneling them into a different part of the company.

Second, the advertising director should ask himself this; what medium do the majority of his most generous movie reviewers utilize? The writer states that movie reviews were generally positive, but where were these reviews located? On television, newspapers, or the Internet? It is possible that the medium used by the most positive reviewers of Super Screen's movies is one that is not utilized by most of the company's target audiences. If Super Screen produces many family films, but most of the good reviews are found in late night television shows, then there is a good chance that the reviews are not going to be seen by the target audience. If this is the case, then the company would be better off conducting research as to what medium is most likely to reach their audiences.

One last question would be this; what advertising is currently being used by the Super Screen company? If the company advertises using only one medium, such as in newspapers, perhaps the solution is not to double the amount of newspaper space but to branch out and try other forms of advertising. The writer fails to mention exactly how the company currently advertises their movies, and this absence detracts from his argument.

In conclusion, the advertising director would be better served by first answering these questions and evaluating the resulting answers before pouring millions of dollars into his solution. It is possible that an alternative solution exists, perhaps one that will not be as expensive nor as risky.

Reader Commentary for Essay Response – Score 5

This response earns a score of 5 because it presents generally perceptive analysis and maintains facility with language in spite of a few minor errors. The writer clearly identifies aspects of the argument relevant to the assigned task, looking at how the various points raised might impact the marketing director's recommendation. However, the development of each point is not as insightful as the development seen in the sample 6 (see, for example, the somewhat rudimentary paragraph about Super Screen's advertising media). In general, however, the development is perceptive, as in the exploration of a potential disconnect between the target audience and the media used by the reviewers, so the response rises above the adequate level. Language control in this response is also at the 5 level, as seen in the effective use of sentence variety and appropriate word choice. Take, for example, this sentence, which demonstrates effective control of subordination and complex syntax: "If Super Screen produces many family films, but most of the good reviews are found in late night television shows, then there is a good chance that the reviews are not going to be seen by the target audience." Because of its perceptive analysis and strong control of language, then, this response earns a score of 5.

Essay Response – Score 4

In order to decide whether or not the advertising director's recommendation is reasonable there are a lot more questions that need to be addressed. First of all it is important to look at the bigger picture. Fundamentally, has anything changed about Super Screen? Has new leadership come into the company? If so, how has that changed business practices?

Leadership changes or other changes within the company might have led Super Screen to choose to make different types of movies this year than it has in the past. It is important to determine whether or not different movie subjects/topics have influenced audiences. Many times there are discrepencies between how a reviewer rates a movie and how an audience rates a movie. It is important to determine whether or not the audiences are pleased with the

products coming out of Super Screen, not just the movie reviewers.

Another question to ask is whether or not advertising has significantly changed over the past year. Has there been any less advertising this year than years before? If not, then again, the problem probably does not lie in advertising alone. If there have been some differences in the way movies were advertised, it would be important to look at some of those decisions and determine how they affected movie audiences. Perhaps the right audiences were not targeted for the right movies. If a childrens movie was released and all the advertising went into adult magazines, this would present an obvious problem.

In conclusion, it would not be a good idea to only up the advertising budget next year in an attempt to reach audiences. It is important to look at differences, if any, throughout the whole company and then determine the best course of action.

Reader Commentary for Essay Response – Score 4

This response does identify questions that need to be answered in order to determine if the recommendation is reasonable, and the development of each point of analysis is adequate. Take, for example, the discussion of how Super Screen might have started making different types of movies this year. The writer notes, "It is important to determine whether or not different movie subjects/topics have influenced audiences. Many times there are discrepencies between how a reviewer rates a movie and how an audience rates a movie." This discussion is certainly relevant, and it is developed enough to make the point that positive reviews might not lead to more viewers. But the response does not demonstrate the perceptive analysis or the thorough development required for a higher score. As with the analysis, language control in this response is adequate. There are some minor errors, but all the writer's points are presented with adequate clarity. Because of its adequate analysis and language control, this response earns a score of 4.

Essay Response – Score 3

There are a battery of questions that should be asked when deciding whether or not the advertising director's recommendation is reasonable. One of the most prevalent being "How many people actually take into account movie reviews when they are deciding which movie to watch?" For, if no one reads movie reviews before making these decisions, then the proposed plan from the movie director may not guarantee anything.

The second question would be this: "who exactly is doing the movie reviews?" For instance, if there is but one or two reviewers who are doing such work, can we be sure that such a small sample would be representative of our target market?

The director's argument is not necessarily fallacious. However, there is certain evidence that would have to be put forward to consider his proposal further. First of all, we need to know how our target market takes movie reviews into account. And lastly, we need to know who, and how many people, are conducting the reviews. Only then, can we make a maximally informed decision regarding the reviews.

Reader Commentary for Essay Response – Score 3

This response earns a score of 3 because of the limited development of its critique. The points that the writer makes are certainly relevant, and there is some attempt made to analyze the impact on the recommendation of the questions the writer raises. However, the response provides little support for each point. For example, the discussion of "who exactly is doing the movie reviews" is supported only by the fairly generic notion that the sample size might be too small to be meaningful. This response uses repetition instead of developing its analysis, as seen in the final paragraph, which simply repeats the points made earlier in the response. Language control in this response is adequate, but it earns a score of 3 for limited development.

Essay Response – Score 2

It seems like the Super Screen Movie Production Company has good quality movies. However, it did not have enough viewers to see the movies. It is probably because not many people are aware of their movies that being showed. Their problem is how to let people know that their movies are showing. The Super Screen Movie Production Company need to come up with different strategies to let people know about their movies and has more advertisements done. If the company does the following three ideas, I think they are able to reach the number of prospective viewers. One of them is advertise their movies on television, second is to talk about their new movies on radio, and third is to post poster of their new movies every where that can catch people attention. This will be able to bring their number of viewers higher.

Television is a very popular electronic that no one can live without. After a long working hours, everyone watches television to relax such as the News, movies, soap opera, and so on. If the Super Screen Movie Production Company has their movie's advertisement during this hour, people will be able to see and know that there is a good quality movie around the corner. They will come and see the movie.

Everyone has to go to work. They have to drive in a car where they listen to their radio. This is the best time for the Super Screen Movie Production Company to talk about their new released movie. This give people a chance to hear about their new movie and decide whether to go see it or not.

Seeing a poster is worth more than a thousand words. Many students do not like to look at a paper with a lot of words, but if they see a poster with picture, they will stop and look right away. This is also helping the Super Screen Movie Production to increase their viewers. Not only students, the adults are the same. There are some people do not know how to read, so seeing a poster of the new movie will help them out a lot.

After discussing three different ways for the Super Screen Movie Production Company to advertise their movie to reach enough number of prospective viewers, I believe that their movies will get many more viewers to come see their movies. What easy ways to let people know about their movies by advertise them on television, talk about the movies on radio, and put posters of their movies up everyone that people can see.

Reader Commentary for Essay Response – Score 2

This response earns a score of 2 because it does not present an examination based on logical analysis. Instead, it agrees with the marketing director's argument and provides advice for how Super Screen could best increase its advertising ("One of them is advertise their movies on television, second is to talk about their new movies on radio, and third is to post poster of their new movies every where that can catch people attention."). There are some minor errors in this response, but it does not demonstrate the serious problems in language characteristic of a 2 (language control is more at the 3 level). Instead, this response earns a 2 because it presents agreement and advice instead of logical analysis.

Essay Response – Score 1

Acoording to this memo, It seems to be wrong things are not exist about Super Screeb Movie Production Company. That's it.

There are advantage of both ways - by listening to advice through personal experience. But I prefer to learn about the thing. Yes sure. in my country monumentally yes or not for his or her. i couldn't understand about terrable things Why did you sent me a reply I can not imagine that oh no

Reader Commentary for Essay Response – Score 1

This incoherent response earns a score of 1. There is some evidence of an attempt to respond to the assigned topic ("It seems to be wrong things are not exist about Super Screeb Movie Production Company."), but there is little or no evidence of understanding the argument. There is also little or no evidence of the ability to develop an organized response. In addition, the response contains pervasive errors that result in incoherence. For all these reasons, then, the response earns a score of 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					
Section 3			Section 4		
Question Number	Correct Answer	P+	Question Number	Correct Answer	P+
1	E	57	1	A	60
2	E	49	2	C	75
3	C	72	3	A, E	60
4	A, E	43	4	C, D	61
5	A, D	79	5	B, F	76
6	C, E	61	6	C, D, G	48
7	C, F, G	59	7	C, D, G	22
8	A, E, H	69	8	B, E, I	36
9	B	58	9	E	42
10	D	76	10	B	62
11	B	53	11	B	52
12	C	60	12	D	42
13	C	80	13	A, B	69
14	C	36	14	A	83
15	C, F	89	15	D	26
16	A, F	50	16	A, C	67
17	A, B	77	17	C, E	68
18	A, B	62	18	A, C	82
19	B, D	33	19	A, D	26
20	B	90	20	E	65
21	A	60	21	A	67
22	C	23	22	A, B	43
23	A, C	81	23	A	72
24	A	20	24	E	53
25	C	19	25	A, C	50

Quantitative Reasoning					
Section 5			Section 6		
Question Number	Correct Answer	P+	Question Number	Correct Answer	P+
1	C	76	1	C	85
2	A	78	2	B	74
3	B	72	3	B	63
4	C	61	4	D	60
5	A	56	5	D	48
6	D	51	6	C	55
7	B	67	7	B	47
8	B	27	8	B	50
9	C	31	9	D	30
10	100	84	10	B	88
11	E	87	11	14.4	71
12	D	88	12	C	67
13	D	82	13	A	63
14	14/5	63	14	C	63
15	B	55	15	D	58
16	B	46	16	A, D	73
17	A	89	17	B	94
18	C	54	18	D	78
19	C	30	19	A	36
20	E	28	20	C	47
21	C	43	21	729	41
22	B	59	22	E	61
23	D	34	23	C	40
24	A, B, C, D, E, F	26	24	C	38
25	B	44	25	C, D, E,	24

* 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.

Score Conversion Table

Raw Score	Verbal Reasoning Scaled Score	Quantitative Reasoning Scaled Score
50	170	170
49	170	170
48	170	168
47	169	167
46	167	165
45	166	164
44	165	163
43	164	162
42	163	161
41	162	160
40	162	159
39	161	158
38	160	157
37	159	157
36	158	156
35	158	155
34	157	154
33	156	154
32	156	153
31	155	152
30	154	152
29	154	151
28	153	150
27	152	150
26	151	149
25	151	148
24	150	147
23	149	147
22	149	146
21	148	145
20	147	144
19	147	144
18	146	143
17	145	142
16	144	141
15	144	141
14	143	140
13	142	139
12	141	138
11	140	137
10	139	136
9	138	135
8	136	134
7	135	133
6	134	132
5	132	130
4	130	130
3	130	130
2	130	130
1	130	130
0	130	130

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