



Texas Higher Education Assessment®



# Test Preparation Quick Reference Guide

This guide describes the THEA® Quick Test, explains how to develop an effective study plan, and provides general test-taking strategies, sample test items, and a complete list of THEA Test skills.

The THEA Quick Test has been approved to meet state testing requirements.

# TEST PREPARATION QUICK REFERENCE GUIDE

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## PREPARING TO TAKE THE THEA QUICK TEST

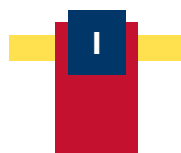
### ABOUT THE THEA

Since 1989, the Texas Higher Education Assessment® (THEA®) has provided Texas students and institutions of higher education with a flexible, fair, and accurate testing and score-reporting system. Its purpose is to assess the reading, mathematics, and writing skills that entering freshman-level students should have if they are to perform effectively in undergraduate certificate or degree programs in Texas public colleges or universities.

The THEA Test was approved by the Texas Higher Education Coordinating Board, under Senate Bill 286, Texas Education Code, Section 51.3062: Texas Success Initiative, for use by Texas institutions of higher education as an assessment instrument to evaluate incoming students. It provides the diagnostic data required by this legislation; its content is the same as that of the former TASP Test.

The THEA Test is the only assessment developed specifically to evaluate the readiness of students for college-level coursework in Texas. It was developed through a rigorous review and approval process supported by skilled and experienced Texas educators. All THEA Test questions have been reviewed by committees of Texas educators to ensure content accuracy and to prevent potential bias.

For more information about taking the THEA Test including testing requirements, passing standards, registration information, and how to obtain your test results, refer to the current THEA program Web site at [www.thea.nesinc.com](http://www.thea.nesinc.com).



## THEA QUICK TEST DESCRIPTION

The THEA Quick Test consists of three sections: Reading, Mathematics, and Writing. Each section of the THEA Quick Test is designed to measure a student's academic skill against an established standard of competence. A student's score on each section of the test is based on his or her performance in relation to the skills being tested. Scores are not related to how well other students have performed on the same section.

The THEA Quick Test consists of:

Section	Description
Reading	<p><b>Composed of approximately 40 multiple-choice questions matched to about seven reading selections of 300 to 750 words each.</b></p> <p>The reading selections represent a variety of subject areas and are similar to reading materials (e.g., textbooks, manuals) that students are likely to encounter during their first year of college. Students will be asked to answer several multiple-choice questions about each reading selection.</p>
Mathematics	<p><b>Composed of approximately 50 multiple-choice questions covering four general areas: fundamental mathematics, algebra, geometry, and problem solving.</b></p> <p>The test questions focus on a student's ability to perform mathematical operations and solve problems. Appropriate formulas will be provided to help students perform some of the calculations required by the test questions. Note that you may use a four-function (+, -, ×, ÷), nonprogrammable calculator [with square root (<math>\sqrt{\quad}</math>) and percent (%) keys].</p>
Writing	<p><b>Contains two subsections: a writing sample subsection requiring students to demonstrate their ability to communicate effectively in writing on a given topic, and a multiple-choice subsection including approximately 40 questions assessing students' ability to recognize various elements of effective writing.</b></p> <p>Students are asked to prepare a multiple-paragraph writing sample of about 300 to 600 words on an assigned topic. Students' writing samples are scored on the basis of how effectively they communicate a whole message to a specified audience for a stated purpose. Students will be assessed on their ability to express, organize, and support opinions and ideas, rather than on the position they express.</p>

## CREATING A STUDY PLAN

By the time many students have completed high school or have begun college, they have developed their own study methods. If you have used study methods that you have found to be effective, you may find it best to continue to use them. If you feel that your study methods should be changed, consider those presented below. The key to effective studying is to develop a study plan that works best for you and follow it throughout your test preparation. The following are some steps that you can take to maximize your performance on the THEA Quick Test.

### 1. Review the THEA Test Skills

Review the skills that are measured by the THEA Quick Test. These skills in reading, mathematics, and writing are listed on pages 7–11 of this guide. A review of these skills will give you an understanding of what will be covered by the test.

### 2. Review the THEA Preparation Materials

There are several preparation materials available for the THEA Quick Test, including an online interactive practice test, an online study guide, a paper-based study guide, and a quick reference PDF. Some materials are free and accessible on the THEA Web site; others may be purchased through the THEA site. For information about available materials, visit the THEA Web site at [www.thea.nesinc.com](http://www.thea.nesinc.com) and click on “Prepare.”

### 3. Identify Resources

Identify resources to help you master or review the required THEA Test skills. You may wish to use resources such as textbooks, self-instructional materials, developmental learning materials, and self-assessment materials. You may also ask college faculty who teach in the skill areas measured by the THEA Quick Test (reading, mathematics, and writing) to suggest materials that could help you improve your skills. A campus learning resources center may also suggest materials to help you.

### 4. Answer the Sample Test Questions

Sample reading, mathematics, and writing test questions are provided beginning on page 13. Read the directions and then answer the sample test questions and respond to the sample writing assignment.

**PLEASE NOTE:** Since examinees will **not** be allowed to use dictionaries, unapproved calculators, or slide rules during the test administration, you should not use them in answering the sample test questions. You may use a four-function (+, −, ×, ÷), nonprogrammable calculator [with square root ( $\sqrt{\quad}$ ) and percent (%) keys]. For more information, see “The Test Session” on the current THEA program Web site, [www.thea.nesinc.com](http://www.thea.nesinc.com).

### 5. Score the Sample Test Questions

After answering the sample multiple-choice questions, turn to the answer key on page 23 and score your answers. You may then wish to review any questions answered incorrectly in order to help you understand how each correct answer was obtained.

## 6. Evaluate Your Writing Sample

Evaluate the writing sample that you wrote in response to the writing assignment. Since it is sometimes hard for individuals to evaluate their own writing, you may want to have your writing sample evaluated by someone who has experience in assessing writing skills, such as a high school or college English teacher. Have the evaluator use the writing sample scoring criteria that are provided on page 10.

You may also wish to review the writing sample section of the online THEA Study Guide (available for purchase through the THEA Web site) or the printed study guide (available for purchase using an order form on the THEA Web site or from college bookstores). This section contains information about how writing samples are scored as well as sample assignments and sample written responses with explanations of the scores assigned. The online interactive THEA Practice Test (available for purchase through the THEA Web site) also includes a sample writing assignment and immediate scoring and feedback.

## 7. Assess Areas of Strength and Weakness

After reviewing the THEA Quick Test preparation materials, identifying and reviewing resources related to the THEA Test skills, and answering and scoring the sample questions provided in this guide, you should have a fairly good idea of your areas of strength and weakness. Even if you cannot identify specific skill deficiencies, you may at least have a better idea of how much study time you need to set aside to prepare for each section of the test.

## 8. Prepare a Skill Development Plan

Based on your determination (through steps 1–7) of the skills you need to develop and the time available before the day of testing, create a skill development plan. Included in this plan could be the following components:

- amount of study time planned for each test section and each skill within a test section;
- schedule for study activities;
- study resources to be used for each section;
- procedures for evaluating progress in developing the test skills; and
- identification of professional staff who can help you develop these skills.

## TEST-TAKING STRATEGIES

The following are some general strategies that may help when you take the test.

### **Follow Directions Exactly**

Many students make careless errors during a test because they do not follow directions carefully. Therefore, follow all spoken and written directions throughout the entire test. In your test booklet you will find general directions for the whole test and specific directions for parts of the test. If you do not understand any part of the directions, you should raise your hand and ask your test administrator for assistance.

### **Pace Yourself**

The test schedule is designed to give you time to complete the test. You will have five hours to complete the test. You can decide how much time you want to set aside for each section of the test (Reading, Mathematics, and Writing). You may take one, two, or all three sections at a test administration. You do **not** need to retake any sections you have already passed unless otherwise directed by your institution.

Because you decide when to move on to the next test section, you need to pace yourself during the entire test. There will be approximately 135 multiple-choice questions and one writing sample assignment, so you will have to establish a steady pace if you plan to complete all three sections at one administration. If you cannot answer a question right away, skip that question and move on. Make a mark in your test booklet beside the questions you skip so that you can return to them later. **Be sure to leave a blank space on your answer document for any question that you skip.**

For most examinees, it is a good idea to set aside at least one hour for the writing sample section of the test. This probably will provide enough time for you to organize and write your response and then to review and revise it.

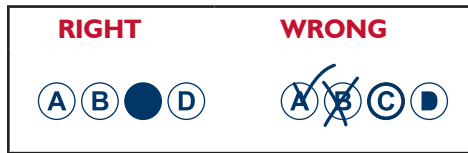
### **Read Carefully**

Read all test questions carefully. You need to select the best answer for each question, so read all responses to a question before you choose one. **Do not rush.** Choose the answer that seems most reasonable. The questions are designed to be straightforward, not tricky.

### **Mark Answers Carefully**

Your answers for all multiple-choice questions will be scored by computer. If you change an answer, erase your previous answer completely. Do not make any stray marks on your answer document. These marks could affect your test score. You can make notes and marks in your test booklet, but **your answers and your writing sample must be written in your answer document.** Answers and writing samples in your test booklet will not be scored.

See the sample answer document circles below for the correct way and incorrect way to record answers. Always check that the number of the question you are answering matches the number on your answer document.



**Guess Wisely** Choose the best answer for each question. If you have difficulty selecting the best answer, try to rule out responses that you think are clearly wrong, and guess from the remaining responses. You will not lose points for guessing incorrectly. Your score will be based on the number of questions you answer correctly.

**Check Accuracy** Use any time left at the end of the test session to check the accuracy of your answers. Go over the questions that were difficult for you and verify the answers you selected. Go over your answer document and make sure that you have marked your answers correctly.

Review the following list of suggestions to prepare yourself both physically and mentally for taking the test, particularly on the days prior to the test and on the test administration day.

**Get Adequate Rest** During the two to three days before the test, try to get a proper amount of sleep.

**Avoid Cramming for the Test** While it may be helpful to do some reviewing of the test skills during the week before the test, it will probably not help your test performance if you cram, particularly during the two or three days before the test. The tested skills generally represent those that you would have learned over many years.

**Identify the Location of the Test Site** Be sure to get directions to the test site. Make sure that you know the specific location of the test site and how to get there before the day of the test.

**On the Day of the Test** Avoid an excessive intake of foods or beverages that could cause discomfort during the test (e.g., coffee). On the day of the test, you may wish to dress comfortably in layers. This will allow you to adjust for the temperature at the test center, which may vary and may not be under the control of the test administrators. Please wear soft-soled shoes to help maintain a quiet testing environment.

Be sure to gather all materials you will need for the test (i.e., several No. 2 pencils; four-function (+, −, ×, ÷), nonprogrammable calculator [with square root ( $\sqrt{\quad}$ ) and percent (%) keys]; and two forms of identification, one with a recent photograph).

Plan to arrive at the testing room well before the reporting time.

## **THEA TEST SKILL DESCRIPTIONS**

The purpose of the test is to assess the reading, mathematics, and writing skills that entering freshman-level students should have if they are to perform effectively in undergraduate certificate or degree programs in Texas public colleges or universities. The skills listed below are eligible to be assessed by the THEA Test. Each skill is accompanied by a brief description of how the skill may be measured on the test.

### **READING SECTION SKILLS**

#### **General Description**

The Reading Section of the THEA Test consists of approximately 40 multiple-choice questions matched to about seven reading selections of 300 to 750 words each. The selections represent a variety of subject areas and are similar to reading materials (e.g., textbooks, manuals) that students are likely to encounter during their first year of college. Students will be asked to answer several multiple-choice questions about each reading selection.

#### **Skill Descriptions**

The Reading Section of the THEA Test is based on the skills listed below. Each skill is accompanied by a description of the content that may be included on the test.

**Skill: Determine the meaning of words and phrases.**

Includes using the context of a passage to determine the meaning of words with multiple meanings, unfamiliar and uncommon words and phrases, and figurative expressions.

**Skill: Understand the main idea and supporting details in written material.**

Includes identifying explicit and implicit main ideas and recognizing ideas that support, illustrate, or elaborate the main idea of a passage.

**Skill: Identify a writer's purpose, point of view, and intended meaning.**

Includes recognizing a writer's expressed or implied purpose for writing; evaluating the appropriateness of written material for a specific purpose or audience; recognizing the likely effect on an audience of a writer's choice of words; and using the content, word choice, and phrasing of a passage to determine a writer's opinion or point of view.

**Skill: Analyze the relationship among ideas in written material.**

Includes identifying sequence of events or steps, identifying cause-effect relationships, analyzing relationships between ideas in opposition, identifying solutions to problems, and drawing conclusions inductively and deductively from information stated or implied in a passage.

**Skill: Use critical reasoning skills to evaluate written material.**

Includes evaluating the stated or implied assumptions on which the validity of a writer's argument depends; judging the relevance or importance of facts, examples, or graphic data to a writer's argument; evaluating the logic of a writer's argument; evaluating the validity of analogies; distinguishing between fact and opinion; and assessing the credibility or objectivity of a writer or source of written material.

**Skill: Apply study skills to reading assignments.**

Includes organizing and summarizing information for study purposes; following written instructions or directions; and interpreting information presented in charts, graphs, or tables.

## MATHEMATICS SECTION SKILLS

### General Description

The Mathematics Section of the THEA Test consists of approximately 50 multiple-choice questions covering four general areas: fundamental mathematics, algebra, geometry, and problem solving. The test questions focus on a student's ability to perform mathematical operations and solve problems. Appropriate formulas will be provided to help students perform some of the calculations required by the test questions.

You may use a four-function (+, −, ×, ÷), nonprogrammable calculator [with square root ( $\sqrt{\quad}$ ) and percent (%) keys]. See “The Test Session” on the current THEA program Web site, [www.thea.nesinc.com](http://www.thea.nesinc.com), for more information.

### Skill Descriptions

The Mathematics Section of the THEA Test is based on the skills listed below. Each skill is accompanied by a description of the content that may be included on the test.

#### FUNDAMENTAL MATHEMATICS

**Skill: Solve word problems involving integers, fractions, decimals, and units of measurement.**

Includes solving word problems involving integers, fractions, decimals (including percents), ratios and proportions, and units of measurement and conversions (including scientific notation).

**Skill: Solve problems involving data interpretation and analysis.**

Includes interpreting information from line graphs, bar graphs, pictographs, and pie charts; interpreting data from tables; recognizing appropriate graphic representations of various data; analyzing and interpreting data using measures of central tendency (mean, median, and mode); and analyzing and interpreting data using the concept of variability.

#### ALGEBRA

**Skill: Graph numbers or number relationships.**

Includes identifying the graph of a given equation or a given inequality, finding the slope and/or intercepts of a given line, finding the equation of a line, and recognizing and interpreting information from the graph of a function (including direct and inverse variation).

**Skill: Solve one- and two-variable equations.**

Includes finding the value of the unknown in a given one-variable equation, expressing one variable in terms of a second variable in two-variable equations, and solving systems of two equations in two variables (including graphical solutions).

**Skill: Solve word problems involving one and two variables.**

Includes identifying the algebraic equivalent of a stated relationship and solving word problems involving one and two unknowns.

**Skill: Understand operations with algebraic expressions and functional notation.**

Includes factoring quadratics and polynomials; performing operations on and simplifying polynomial expressions, rational expressions, and radical expressions; and applying principles of functions and functional notation.

**Skill: Solve problems involving quadratic equations.**

Includes graphing quadratic functions and quadratic inequalities; solving quadratic equations using factoring, completing the square, or the quadratic formula; and solving problems involving quadratic models.

## **GEOMETRY**

**Skill: Solve problems involving geometric figures.**

Includes solving problems involving two-dimensional geometric figures (e.g., perimeter and area problems) and three-dimensional geometric figures (e.g., volume and surface area problems) and solving problems using the Pythagorean theorem.

**Skill: Solve problems involving geometric concepts.**

Includes solving problems using principles of similarity, congruence, parallelism, and perpendicularity.

## **PROBLEM SOLVING**

**Skill: Apply reasoning skills.**

Includes drawing conclusions using inductive and deductive reasoning.

**Skill: Solve applied problems involving a combination of mathematical skills.**

Includes applying combinations of mathematical skills to solve problems and to solve a series of related problems.

## **WRITING SECTION SKILLS**

### **General Description**

The Writing Section of the THEA Test consists of two subsections: a writing sample subsection and a multiple-choice subsection. The writing sample subsection requires students to demonstrate their ability to communicate effectively in writing on a given topic. The multiple-choice subsection includes approximately 40 questions assessing students' ability to recognize various elements of effective writing.

## **Description: Writing Sample Subsection**

The writing sample subsection of the THEA Test consists of one writing assignment. Students are asked to prepare a MULTIPLE-PARAGRAPH writing sample of about 300 to 600 words on an assigned topic. Students' writing samples are scored on the basis of how effectively they communicate a whole message to a specified audience for a stated purpose. Students will be assessed on their ability to express, organize, and support opinions and ideas, rather than on the position they express. The following characteristics may be considered in scoring the writing samples:

- **APPROPRIATENESS**—the extent to which the student addresses the topic and uses language and style appropriate to the given audience, purpose, and occasion.
- **UNITY AND FOCUS**—the clarity with which the student states and maintains a main idea or point of view.
- **DEVELOPMENT**—the amount, depth, and specificity of supporting detail the student provides.
- **ORGANIZATION**—the clarity of the student's writing and the logical sequence of the student's ideas.
- **SENTENCE STRUCTURE**—the effectiveness of the student's sentence structure and the extent to which the student's writing is free of errors in sentence structure.
- **USAGE**—the extent to which the student's writing is free of errors in usage and shows care and precision in word choice.
- **MECHANICAL CONVENTIONS**—the student's ability to spell common words and to use the conventions of capitalization and punctuation.

Your written response should be your original work, written in your own words, and not copied or paraphrased from some other work.

## **Skill Descriptions: Multiple-Choice Subsection**

The multiple-choice subsection of the Writing Section of the test is based on the skills listed below. Each skill is accompanied by a description of the content that may be included on the test.

Please note that the term “standard” as it appears below refers to language use that conforms to the conventions of edited American English.

### **ELEMENTS OF COMPOSITION**

#### **Skill: Recognize purpose and audience.**

Includes recognizing writing that is appropriate for a given purpose and recognizing writing that is appropriate for a given audience and occasion.

#### **Skill: Recognize unity, focus, and development in writing.**

Includes recognizing unnecessary shifts in point of view or distracting details that impair the development of the main idea in a piece of writing, recognizing revisions that improve the unity and focus of a piece of writing, and recognizing examples of well-developed writing.

**Skill: Recognize effective organization in writing.**

Includes recognizing methods of paragraph organization and the appropriate use of transitional words or phrases to convey text structure and reorganizing sentences to improve cohesion and the effective sequence of ideas.

**SENTENCE STRUCTURE, USAGE, AND MECHANICS**

**Skill: Recognize effective sentences.**

Includes recognizing ineffective repetition and inefficiency in sentence construction; identifying sentence fragments and run-on sentences; identifying standard subject-verb agreement; identifying standard placement of modifiers, parallel structure, and use of negatives in sentence formation; and recognizing imprecise and inappropriate word choice.

**Skill: Recognize edited American English usage.**

Includes recognizing the standard use of verb forms and pronouns; recognizing the standard formation and use of adverbs, adjectives, comparatives, superlatives, and plural and possessive forms of nouns; and recognizing standard punctuation.

**How Scores Are Determined for the Writing Section**

You are scored first on the writing sample subsection. If your score on the writing sample subsection is neither a clear pass nor a clear fail, the multiple-choice subsection contributes to your passing status.

The writing sample is scored using a technique called focused holistic scoring. This means that your writing sample will receive a single overall score. Each paper is read by two readers, each of whom scores it independently (i.e., the second person to read it does not know the score the first person assigned to it). Essays that are completely off topic, illegible, written in a language other than English, or otherwise unscorable receive a score of U (unscorable). If the two readers disagree substantially in their scores, there is a process for reviewing the paper and resolving the difference.

The writing sample is scored on a 4-point scale. (See the Description of Score Points Used in Evaluating the THEA Test Writing Sample on the following page, which defines each score point.) Because each paper is read by two scorers, you will receive a score between 2 and 8 on the writing sample. If your score is 6, 7, or 8, you will automatically pass the Writing Section of the THEA Test, regardless of your performance on the multiple-choice questions of the Writing Section. Conversely, if your score is 2, 3, or 4, you will not pass the Writing Section regardless of your performance on the multiple-choice questions.

If the combined score of your writing sample is 5, your performance on the multiple-choice questions of the Writing Section is used to determine your pass/not pass status. In order to pass the Writing Section, you must answer correctly approximately 70 percent of the writing multiple-choice questions. Accordingly, you must complete the writing sample and you should do as well as you can on the multiple-choice questions of the Writing Section.



## Description of Score Points Used in Evaluating the THEA Test Writing Sample

Score Point	Description of Writing Sample
4 —	<b>a well-formed writing sample that effectively communicates a whole message to a specified audience</b> The writer maintains unity of a developed topic throughout the writing sample and establishes a focus by clearly stating a purpose. The writer exhibits control in the development of ideas and clearly specifies supporting detail. Sentence structure is effective and free of errors. Choice of words is precise, and usage is careful. The writer shows mastery of mechanical conventions, such as spelling and punctuation.
3 —	<b>an adequately formed writing sample that attempts to communicate a message to a specified audience</b> The focus and the purpose of the writing sample may be clear; however, the writer's attempts to develop supporting details may not be fully realized. The writer's organization of ideas may be ambiguous, incomplete, or partially ineffective. Sentence structure within paragraphs is adequate, but minor errors in sentence structure, usage, and word choice are evident. There may also be errors in the use of mechanical conventions, such as spelling and punctuation.
2 —	<b>a partially developed writing sample in which the characteristics of effective written communication are only partially formed</b> The statement of purpose is not clear, and, although a main idea or topic may be announced, focus on the main idea is not sustained. Ideas may be developed by the use of specific supporting detail, and the writer may make an effort to organize and sequence ideas, but development and organization are largely incomplete or unclear. Paragraphs contain poorly structured sentences with noticeable and distracting errors. The writer exhibits imprecision in usage and word choice and a lack of control of mechanical conventions, such as spelling and punctuation.
1 —	<b>an inadequately formed writing sample that fails to communicate a complete message</b> The writer attempts to address the topic, but language and style may be inappropriate for the given audience, purpose, and/or occasion. There is often no clear statement of a main idea and the writer's efforts to present supporting detail are confused. Any organization that is present fails to present an effective sequence of ideas. Sentence structure is ineffective and few sentences are free of errors. Usage and word choice are imprecise. The writer makes many errors in the use of mechanical conventions, such as spelling and punctuation.

Note: A score of U is given if the writing sample is off topic, illegible, primarily in a language other than English, or not of a sufficient length to score. A score of B is used if the writing sample is completely blank (i.e., the examinee made no response to the writing assignment).

## **SAMPLE TEST QUESTIONS**

This section provides sample test questions for the Reading, Mathematics, and Writing sections of the THEA Quick Test. After you read each question, write down your answer and check it using the answer key. As you review your correct and incorrect responses, note which THEA Test skills you may need to study further.

### **SAMPLE READING QUESTIONS**

Read the selection below; then answer the six questions that follow.

#### **Hibernating Bears: Metabolic Marvels**

- 1 The North American black bear (*Ursus americanus*) hibernates for more than a third of the year—sometimes for as long as five months. During this period of relative dormancy, the bear is self-sufficient, requiring nothing from the outside. It does not eat or drink, nor does it eliminate body wastes. Waste products that in other animals (including humans) would rapidly elevate to lethal levels in the blood are broken down into basic chemicals and then recycled as new proteins. And by burning its fat stores (accumulated during a late-summer feeding frenzy), the bear produces—internally—all the water it needs.
- 2 Scientists do not know what causes a bear to start the late-summer eating binge that allows it to hibernate all winter. During the late summer, bears may spend up to 20 hours a day eating almost anything that is readily available, including garbage. The normal caloric intake of an adult bear is about 4,000 calories a day. During the late-summer feeding frenzy, however, this figure climbs to 20,000 calories a day—five times the normal intake. By the time the bear has finished feasting, it will have added five inches of fat to its body—a layer thick enough to sustain it during hibernation.
- 3 Exactly what initiates the release of the “hibernation induction trigger” is also still a mystery. Current studies suggest that it may be the shortage of food that does it, rather than the coming of cooler weather or the shortened day. At some point in the fall the amount of easily obtainable food drops drastically. When this happens, the energy the bear would have to expend looking for food is greater than the food energy it is likely to find.
- 4 Their feasting finally ended, black bears start out for their wintering areas. Once there, some go to sleep in hollow logs, others curl up in abandoned tunnels, and still others build a kind of bird’s nest and bed down right out in the open. In Minnesota, bears bedding down in the open often experience temperatures as low as 40 degrees below zero. Eventually they become covered with layers of snow.
- 5 Female black bears usually give birth to cubs in January, midway through hibernation. During the delivery, the female only briefly rouses from sleep. The cubs, born blind, find their way to the mother’s nipples by sensing heat. Sometimes, female black bears with cubs are even discovered hibernating in open nests, their offspring snuggled in the warm curl of the mother’s body.

- 6 While other hibernating animals (ground squirrels, various bats, and woodchucks, for example) show an enormous drop in heart rate and body temperature, the physiological changes exhibited by hibernating bears are far less dramatic. A ground squirrel's heart rate falls from 350 beats per minute to as low as 2. Its core body temperature drops 64 degrees, from 98 to 34. On the other hand, a black bear's normal sleeping heart rate of 40 beats per minute might drop to 8, and its normal body temperature of about 100 degrees does not fall below 91 degrees. Also, the small hibernators are slow to wake up, while a hibernating black bear can awake to full alertness in seconds and become extremely dangerous.
- 7 Currently, the black bear's hibernation process is being studied by a number of researchers, including wildlife biologists, physiologists, and biochemists. By understanding the bear's amazingly efficient metabolism, scientists hope one day to find new treatments for human ailments such as kidney failure and bone disease.

1. Which of the following details best illustrates the author's view that bears have a very efficient way of maintaining their body functions?
- A. By burning its fat stores during hibernation, the bear produces—internally—all the water it needs.
  - B. During the late-summer feeding frenzy, the caloric intake of bears rises from 4,000 to 20,000 calories a day.
  - C. By the time a bear has finished its late-summer feasting, it will have added five inches of fat to its body.
  - D. A bear's normal body temperature of about 100 degrees does not fall below 91 degrees during hibernation.
2. Which of the following best describes the author's purpose for writing this selection?
- A. to review the current state of knowledge regarding black bears' hibernation
  - B. to compare the physiological changes experienced by smaller and larger hibernating animals
  - C. to explain important causes and effects of hibernation among black bears
  - D. to demonstrate how humans may benefit from a fuller understanding of the bear's hibernation process

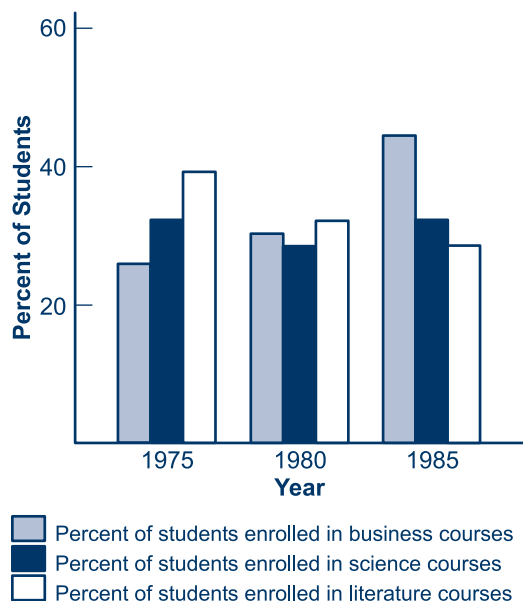
3. Based on the information included in the selection, the author most likely would agree with which of the following statements?
- A. Humans are less self-sufficient than most other forms of animal life.
  - B. By learning more about the world around them, humans will come to know more about themselves.
  - C. The causes of some natural phenomena will always remain beyond human understanding.
  - D. The amount of rest required by an organism is determined primarily by the amount of food it consumes.
4. In paragraph 6, the author compares the hibernation processes of bears and squirrels. The author uses this comparison to:
- A. explain why researchers are interested in the hibernation process of bears.
  - B. demonstrate the physiological deficiencies of small animals.
  - C. illustrate unique features of the hibernation process of bears.
  - D. suggest physiological similarities between bears and other types of animals.

5. Which of the following best organizes the major topics addressed in this selection?
- A. I. The self-sufficiency of hibernating bears  
II. Processes involved in giving birth during hibernation  
III. Physiological changes in hibernating animals
  - B. I. Waste elimination and caloric intake in hibernating bears  
II. Operation of the “hibernation induction trigger”  
III. The hibernation process in small versus large animals
  - C. I. The late-summer feeding frenzy of bears  
II. The bedding down process of hibernating bears  
III. The metabolic efficiency of hibernating bears
  - D. I. Hibernation and how bears prepare for it  
II. Noteworthy characteristics of bears’ hibernation  
III. Physiological changes in bears versus other hibernating animals
6. Which of the following is the best meaning of the word elevate as it is used in the first paragraph of the selection?
- A. advance
  - B. increase
  - C. become prominent
  - D. lift

## SAMPLE MATHEMATICS QUESTIONS

Choose the correct answer for questions 7 through 13. Do not use unapproved calculators or slide rules, as they will not be permitted at the actual test administration. Appropriate formulas will be provided. You may use a four-function (+, −, ×, ÷), nonprogrammable calculator [with square root ( $\sqrt{\quad}$ ) and percent (%) keys].

7. Use the bar graph below to answer the question that follows.



Which of the following is a valid conclusion based on this graph?

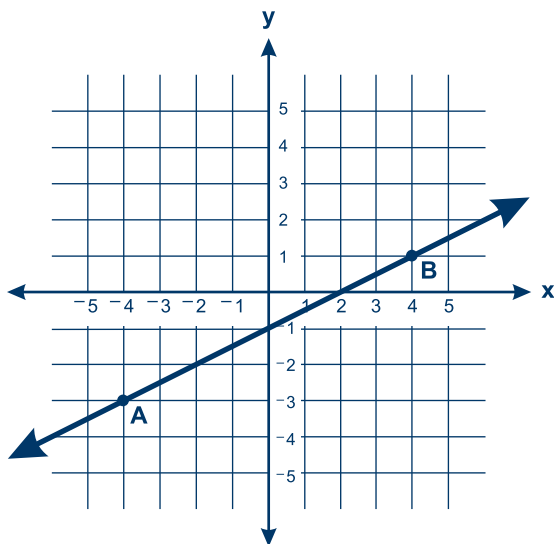
- A. The percent of students enrolled in science courses increased from 1975 to 1980.
- B. The percent of students enrolled in business courses declined from 1980 to 1985.
- C. In 1975 there were more students enrolled in business courses than in literature courses.
- D. In 1985 there were more students enrolled in science courses than in literature courses.

8. Use the information provided in the table below to answer the question that follows.

Day	Temperature
Sunday	70°
Monday	50°
Tuesday	70°
Wednesday	60°
Thursday	60°
Friday	80°
Saturday	70°

The table lists the temperature recorded daily at 4:00 P.M. for a period of one week. Which of the following is the median 4:00 P.M. temperature for the week?

- A. 60°  
B. 65°  
C. 66°  
D. 70°
9. Use the graph below to answer the question that follows.



What is the slope of line AB?

- A.  $\frac{1}{2}$   
B. 2  
C.  $-\frac{1}{2}$   
D. -2

10. The telephone company charges a total of \$0.80 for the first three minutes and \$0.23 for each additional minute for a long-distance call to a particular city. If a call to this city costs \$4.02, how long was the call?
- A. 5 minutes
- B. 11 minutes
- C. 14 minutes
- D. 17 minutes
11.  $\frac{a^3b^4c^6}{a^2b^5} \div a^2b^3d =$
- A.  $ab^5c^6d$
- B.  $\frac{a^{\frac{1}{2}}b^{\frac{4}{5}}c^6}{d}$
- C.  $a^{\frac{3}{2}}b^6c^6d$
- D.  $\frac{c^6}{a^3bd}$
12. Students need to paint one side of a wooden semicircular prop to be used as the sun on the set of a play. The diameter of the semicircle is 10 feet, and a can of paint covers 32 square feet. What is the minimum number of cans of paint the students must buy?
- A. 1
- B. 2
- C. 3
- D. 4
13. A carpenter plans to lay a wood floor in two rectangular rooms of a house. One room measures 12 feet by 14 feet and the other room measures 15 feet by 16 feet. What is the total area that will be covered?
- A. 114 square feet
- B. 168 square feet
- C. 204 square feet
- D. 408 square feet

# SAMPLE WRITING QUESTIONS

## Writing Assignment

**DIRECTIONS:** This part of the sample THEA Test consists of one writing assignment. You are asked to prepare a **MULTIPLE-PARAGRAPH** writing sample of about 300 to 600 words on an assigned topic. The assignment can be found below. Read the assignment carefully before you begin to write, and think about how you will organize what you plan to say.

Be sure to write about the assigned topic and use multiple paragraphs. Please write legibly. You may not use any reference materials during the test. Remember to review what you have written and make any changes you think will improve your writing sample. **PLEASE NOTE:** Your writing sample will be scored based on the characteristics of writing listed on page 10 under “Description: Writing Sample Subsection.”

Your written response should be your original work, written in your own words, and not copied or paraphrased from some other work.

**ASSIGNMENT:** Read the passage below about public funding for the arts; then follow the instructions for writing your essay.

Should art projects that are supported by public funding be required to meet certain standards defining what is socially acceptable? Some believe that the government has both a right and a responsibility to ensure that works of art produced with the help of public funds reflect society’s commonly accepted values. Others regard government guidelines for art as a form of censorship that violates our nation’s commitment to freedom of expression.

Your purpose is to write an essay, to be read by a classroom instructor, in which you take a position on whether or not the government should establish guidelines limiting the kind of art that can be produced with public funding. Be sure to support your position with logical arguments and appropriate examples.

## Multiple-Choice Questions

**DIRECTIONS:** Read the passage below, written in the style of a college history textbook. Then answer the three questions that follow. The numbers in the passage indicate the parts of the passage referred to in the questions that follow.

<sup>1</sup>It is widely believed that the stock market crash of 1929 caused the Great Depression, but this is inaccurate. <sup>2</sup>Although the crash may have been the first sign of the crisis, the Depression had been building for years.

<sup>3</sup>In the 1920s, the U.S. economy depended on too few industries, mainly construction and automobiles.

<sup>4</sup>When these industries began to decline, there was too little strength in other industries to support the economy.

<sup>5</sup>Another problem was that purchasing power was not widely distributed among the population. <sup>6</sup>Manufacturers were left with large inventories of unsold goods in they're warehouses. <sup>7</sup>Banks also contributed to the economic crisis. <sup>8</sup>Many of them lent out a lot of money to farmers and other business people whose ability to repay depended on a healthy economy. <sup>9</sup>In addition, many banks had invested recklessly in the stock market during the boom years that preceded the crash. <sup>10</sup>Consequently, when the stock market crashed and, at the same time, their debtors defaulted on their loans, many banks failed.

<sup>11</sup>Thus, serious economic problems were growing beneath the surface of the prosperous 1920s. <sup>12</sup>Problems were building in Europe as well as in America, underlining the interdependence of nations in a world economy.

<sup>13</sup>One product of these problems may have been the stock market crash. <sup>14</sup>The major effect was the Great Depression itself.



14. Which one of the following changes is needed in this passage?
- A. Part 2: Change “had been building” to “has been building.”
  - B. Part 6: Change “they’re” to “their.”
  - C. Part 8: Insert a comma after “farmers.”
  - D. Part 14: Change “effect” to “affect.”
15. Which of the following numbered parts draws attention away from the main idea of the third paragraph?
- A. Part 14
  - B. Part 13
  - C. Part 12
  - D. Part 11

16. Which of the following sentences, if added where indicated in the second paragraph, would be most consistent with the writer's purpose and intended audience?
- A. After Part 4: A lack of economic diversification, it should be clear, can place any economy, however vigorous it may appear, in serious financial jeopardy.
  - B. After Part 5: More than half of American families were too poor to buy the cars and houses that the industrial economy was producing.
  - C. After Part 7: Banks can be pretty greedy, of course, but in this case they got dumb as well and ended up in a real mess.
  - D. After Part 10: I urge all American citizens to support measures that will make such a widespread, uncontrollable debt situation an impossibility in the future.

## ANSWER KEY AND SKILLS MEASURED

QUESTION NUMBER	CORRECT RESPONSE	SKILL MEASURED
<b>READING SECTION</b>		
1	A	Understand the main idea and supporting details in written material.
2	A	Identify a writer’s purpose, point of view, and intended meaning.
3	B	Analyze the relationship among ideas in written material.
4	C	Use critical reasoning skills to evaluate written material.
5	D	Apply study skills to reading assignments.
6	B	Determine the meaning of words and phrases.
<b>MATHEMATICS SECTION</b>		
7	D	Solve problems involving data interpretation and analysis.
8	D	Solve problems involving data interpretation and analysis.
9	A	Graph numbers or number relationships.
10	D	Solve word problems involving one and two variables.
11	D	Understand operations with algebraic expressions and functional notation.
12	B	Solve applied problems involving a combination of mathematical skills.
13	D	Solve problems involving geometric figures.
<b>WRITING SECTION—Multiple-Choice Questions</b>		
14	B	Recognize edited American English usage.
15	C	Recognize unity, focus, and development in writing.
16	B	Recognize purpose and audience.