

SAT Preparation Booklet™ 2004–2005

For the new SAT®

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SAT Reasoning Test™

This booklet will answer your questions about and help you practice for the new SAT.

SAT FAQs

Why should I take the SAT?

The SAT Reasoning Test is a measure of the critical thinking skills you will need for academic success in college. The SAT assesses how well you analyze and solve problems—skills you learned in school that you will need in college.

What is the new SAT?

Starting in March 2005, you will be taking the new SAT. The SAT is changing to keep up-to-date with current teaching practices and high school and college curricula.

The three sections of the new SAT are:

- Critical Reading, which has sentence completion and passage-based questions
- Math, which is based on the math that college-bound students typically learn during their first three years of high school
- Writing, which has multiple-choice questions and a written essay

What do I need to know about the essay?

Colleges want to know not only how well you write, but also how well you express and then back up a point of view. You will have 25 minutes to write your essay, which will count for approximately 30% of the score for the writing section. The essay will be scored as a first draft, not as a polished piece of writing.

How can I best prepare for the SAT?

- Take the PSAT/NMSQT®. This test is given in high schools in October. Many students take it during their sophomore and junior years.
- Review the sample questions, test-taking suggestions, and directions in this booklet.
- Take the official practice SAT in this booklet.
- Visit the SAT Preparation Center at www.collegeboard.com.

How should I get ready for test day?

- Make sure you have on hand all the materials you will need, such as a calculator, your admission ticket, and an official photo ID.
- Check out the route to the test center and know where the weekend entrances are located.
- Get a good night's sleep.
- Leave yourself plenty of time so you'll arrive at the test center a little early.

What are the important points to know about the SAT?

- Get to know as much about the test as you can.
- Become familiar with the test directions.
- Become familiar with the answer sheet on pages 37–43.
- Know what to expect from the test, the types of questions, and the numbers of questions.
- Learn how to approach each type of question.

How can I help myself feel as confident as possible?

- Think positively.
- Stay focused.
- Concentrate only on what you are doing.
- Keep the test in perspective.
- Remember that you are in control.

Approaches to taking the SAT

- **Answer easy questions first.** The easier questions are at the start of the section and the harder ones are at the end. The exception is in the critical reading section, where questions are ordered according to the logic and organization of each passage.
- **Make educated guesses.** If you can rule out one or more answer choices for multiple-choice questions, you have a better chance of guessing the right answer.
- **Skip questions that you really can't answer.** You can get an average score by answering about half of the questions correctly and skipping the remaining questions.
- **Keep track of time.** Don't spend too much time on any one section.
- **Use your test booklet as scratch paper.**
- **Mark questions you skipped and want to return to.**
- **Check your answer sheet to make sure you are answering the right question.**

- **You have 3 hours and 45 minutes to complete the entire test.**
- **All multiple-choice questions are scored the same: one point for each correct answer, and one quarter point subtracted for a wrong answer.**
- **The SAT is one factor colleges look at when they consider your application.**
- **You can always take the test again. One out of every two high school students takes the SAT at least twice.**

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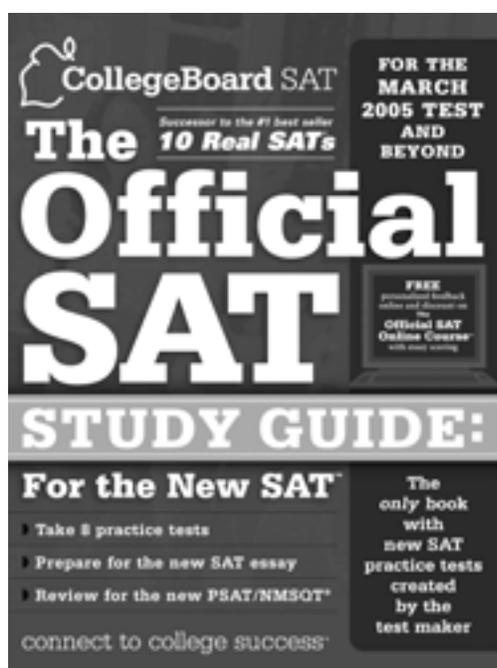
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The Critical Reading Section

The critical reading section of the SAT contains two types of questions:

- sentence completions (19 questions)
- passage-based reading (48 questions)

Note: Calculators may not be on your desk or be used during the critical reading section of the SAT.

Approaches to the Critical Reading Section

- Work on sentence completion questions first. They take less time to answer than the passage-based reading questions.
- In your test booklet, mark each question you don't answer so that you can easily go back to it later if you have time.
- Do not jump from passage to passage. Stay with a passage until you have answered as many questions as you can.
- The difficulty of sentence completion questions increases as you move through a question set.
- Reading questions do not increase in difficulty from easy to hard. Instead, they follow the logic of the passage.
- When you have gone through all the questions associated with a passage, go back and review any you left out or weren't sure about. Remember that all questions are worth the same number of points regardless of the type or difficulty.
- The information you need to answer each reading question is always in the passage(s). Careful reading is the key to finding the correct answer. Don't be misled by an answer that looks correct but is not supported by the actual text.
- If you don't know what a word means in a sentence completion or reading passage, consider related words, familiar sayings and phrases, roots, prefixes, and suffixes. Have you ever heard or seen a word that may be related to it?

Sentence Completions

Sentence completion questions measure your:

- knowledge of the meanings of words
- ability to understand how the different parts of a sentence fit logically together

Directions

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

1. Hoping to ----- the dispute, negotiators proposed a compromise that they felt would be ----- to both labor and management.
(A) enforce . . useful
(B) end . . divisive
(C) overcome . . unattractive
(D) extend . . satisfactory
(E) resolve . . acceptable

Answering Sentence Completion Questions

One way to answer a sentence completion question with two words missing is to focus first on just one of the two blanks. If one of the words in an answer choice is logically wrong, then you can eliminate the entire choice from consideration.

- Look at the first blank in the example above. Would it make sense to say that “negotiators” who have “proposed a compromise” were hoping to **enforce** or **extend** the “dispute”? No, so neither (A) nor (D) can be the correct answer.
- Now you can focus on the second blank. Would the “negotiators” have proposed a compromise that they believed would be **divisive** or **unattractive** to “both labor and management”? No, so (B) and (C) can be eliminated, and only choice (E) remains.
- Always check your answer by reading the entire sentence with your choice filled in. Does it make sense to say “Hoping to **resolve** the dispute, the negotiators proposed a compromise that they felt would be **acceptable** to both labor and management”? Yes.

Correct answer: (E) / Difficulty level: Easy

2. Because King Philip's desire to make Spain the dominant power in sixteenth-century Europe ran counter to Queen Elizabeth's insistence on autonomy for England, ----- was -----.

- (A) reconciliation . . assured
- (B) warfare . . avoidable
- (C) ruination . . impossible
- (D) conflict . . inevitable
- (E) diplomacy . . simple

Be sure to look for key words and phrases as you read each sentence. Words such as *although*, *however*, *if*, *but*, and *since* are important to notice because they signal how the different parts of a sentence are logically related to each other. Words such as *not* and *never* are important because they indicate negation. In the example above, the entire sentence hinges on a few key words: "*Because something ran counter to something else, blank was blank.*"

- The word "because" indicates that the information in the first part of the sentence (the part before the comma) explains the reason for the situation described in the second part. The first part states that what King Philip wanted (domination for Spain) "ran counter to" what Queen Elizabeth wanted (independence for England).
- Given that there was such a fundamental disagreement between the two monarchs, would **reconciliation** be **assured**? Unlikely.
- Would **warfare** be **avoidable**? Hardly; warfare might be unavoidable.
- Would **ruination** be **impossible**? No.
- Would **diplomacy** be **simple**? Not necessarily.
- Only choice (D) fits logically with the key words in the sentence: *Because* what one person wanted *ran counter to* what another person wanted, **conflict** was **inevitable**.

Correct answer: (D) / Difficulty level: Medium

3. There is no doubt that Larry is a genuine -----: he excels at telling stories that fascinate his listeners.

- (A) braggart (B) dilettante (C) pilferer
- (D) prevaricator (E) raconteur

Some sentence completions contain a colon. This is a signal that the words after the colon define or directly clarify what came before. In this case, "he excels at telling stories that fascinate his listeners" serves to define the word **raconteur**, choice (E). None of the other words is directly defined by this clause.

- A **braggart** may or may not excel at telling stories and may actually annoy listeners.
- A **dilettante** is someone who dabbles at a career or hobby and so may not excel at anything.

- A **pilferer** steals repeatedly, in small quantities; this has nothing to do with storytelling.
- A **prevaricator** tells lies, but not necessarily in an accomplished or fascinating way; and the sentence refers to stories, not lies.

You should choose the word that best fits the meaning of the sentence as a whole, and only choice (E) does so.

Correct answer: (E) / Difficulty level: Hard

Passage-based Reading

The reading questions on the SAT measure your ability to read and think carefully about several different passages ranging in length from about 100 to about 850 words. Passages are taken from a variety of fields, including the humanities, social studies, natural sciences, and literary fiction. They vary in style and can include narrative, argumentative, and expository elements. Some selections consist of a pair of related passages on a shared issue or theme that you are asked to compare and contrast.

The following kinds of questions may be asked about a passage:

- **Vocabulary in Context** : These questions ask you to determine the meanings of words from their context in the reading passage.
- **Literal Comprehension**: These questions assess your understanding of significant information directly stated in the passage.
- **Extended Reasoning**: These questions measure your ability to synthesize and analyze information as well as to evaluate the assumptions made and the techniques used by the author. Most of the reading questions fall into this category. You may be asked to identify cause and effect, make inferences, recognize a main idea or an author's tone, and follow the logic of an analogy or an argument.

Answering Passage-based Reading Questions

Below are samples of the kinds of reading passages and questions that may appear on your test. For each set of sample materials:

- read the passage carefully,
- decide on the best answer to each question, and then
- read the explanation for the correct answer.

Some of the reading passages in the SAT are as short as a paragraph or two, about 100 words in length. You will also find one or more **pairs** of related short passages in each edition of the test. Such material will be followed by two to six questions that measure the same kinds of reading skills as are measured by the questions following longer passages.

Directions

The passages below are followed by questions based on their content; questions following a pair of related passages may also be based on the relationship between the paired passages. Answer the questions on the basis of what is stated or implied in the passages and in any introductory material that may be provided.

Questions 4-5 are based on the following passage.

“The rock was still wet. The animal was glistening, like it was still swimming,” recalls Hou Xianguang. Hou discovered the unusual fossil while surveying rocks as a paleontology graduate student in 1984, near the Chinese town of Chengjiang. “My teachers always talked about the Burgess Shale animals. It looked like one of them. My hands began to shake.”

Hou had indeed found a *Naraoia* like those from Canada. However, Hou’s animal was 15 million years older than its Canadian relatives.

Sample Questions

Some questions ask you to recognize the meaning of a word as it is used in the context of the passage.

4. In line 4, “surveying” most nearly means
- (A) calculating the value of
 - (B) examining comprehensively
 - (C) determining the boundaries of
 - (D) polling randomly
 - (E) conducting a statistical study of

The word “surveying” has a number of meanings, several of which are included in the choices above. In the context of this passage, however, only (B) makes sense. A student in the field of “paleontology” is one who studies prehistoric life as recorded in fossil remains. One of the activities of such a student would be to examine rocks carefully and “comprehensively” while looking for fossils.

- (A), (C), and (E) are incorrect because someone who studies fossils would not calculate the “value” of rocks, or determine the “boundaries” of rocks, or conduct a “statistical study” of rocks.
- (D) is wrong because “polling” rocks makes no sense at all.

Correct answer: (B) / Difficulty level: Easy

You may be asked to make an inference or draw a conclusion about a statement made in the passage.

5. It can be inferred that Hou Xianguang’s “hands began to shake” (line 9) because Xianguang was
- (A) afraid that he might lose the fossil
 - (B) worried about the implications of his finding
 - (C) concerned that he might not get credit for his work
 - (D) uncertain about the authenticity of the fossil
 - (E) excited about the magnitude of his discovery

In the passage, Hou states that the fossil that he found “looked like” certain other fossils that his “teacher always talked about.” He understands almost immediately, therefore, the significance of what he has found, and so (E) is the correct answer: Hou’s hands were shaking because he was “excited about the magnitude of his discovery.”

- (A) is wrong because there is no suggestion that Hou was “afraid that he might lose the fossil.”
- (B) and (C) are wrong because Hou was not “worried about” his discovery or “concerned that he might not get credit.” The passage indicates only that Hou recognized that he had found something valuable.
- (D) is wrong because Hou’s immediate reaction is that he thinks he has found an important fossil. The first two sentences of the passage dramatize the discovery; it is Hou’s excitement that causes him to tremble, not his uncertainty.

Correct answer: (E) / Difficulty level: Easy

Questions 6–9 are based on the following passage.

This passage is adapted from a novel written by a woman in 1899. The novel was banned in many places because of its unconventional point of view.

It was eleven o’clock that night when Mr. Pontellier returned from his night out. He was in an excellent humor, in high spirits, and very talkative. His entrance awoke his wife, who was in bed and fast asleep when he came in. He talked to her while he undressed, telling her anecdotes and bits of news and gossip that he had gathered during the day. She was overcome with sleep, and answered him with little half utterances.

He thought it very discouraging that his wife, who was the sole object of his existence, evinced so little interest in things which concerned him and valued so little his conversation.

Mr. Pontellier had forgotten the bonbons and peanuts that he had promised the boys. Notwithstanding, he loved them very much and went into the adjoining room where they slept to take a look at them and make

sure that they were resting comfortably. The result of his investigation was far from satisfactory. He turned and shifted the youngsters about in bed. One of them began to kick and talk about a basket full of crabs.

Mr. Pontellier returned to his wife with the information that Raoul had a high fever and needed looking after. Then he lit his cigar and went and sat near the open door to smoke it.

Mrs. Pontellier was quite sure Raoul had no fever. He had gone to bed perfectly well, she said, and nothing had ailed him all day. Mr. Pontellier was too well acquainted with fever symptoms to be mistaken. He assured her the child was burning with fever at that moment in the next room.

He reproached his wife with her inattention, her habitual neglect of the children. If it was not a mother's place to look after children, whose on earth was it? He himself had his hands full with his brokerage business. He could not be in two places at once; making a living for his family on the street, and staying home to see that no harm befell them. He talked in a monotonous, insistent way.

Mrs. Pontellier sprang out of bed and went into the next room. She soon came back and sat on the edge of the bed, leaning her head down on the pillow. She said nothing, and refused to answer her husband when he questioned her. When his cigar was smoked out he went to bed, and in half a minute was fast asleep.

Mrs. Pontellier was by that time thoroughly awake. She began to cry a little, and wiped her eyes on the sleeve of her nightgown. She went out on the porch, where she sat down in the wicker chair and began to rock gently to and fro.

It was then past midnight. The cottages were all dark. There was no sound abroad except the hooting of an old owl and the everlasting voice of the sea, that broke like a mournful lullaby upon the night.

The tears came so fast to Mrs. Pontellier's eyes that the damp sleeve of her nightgown no longer served to dry them. She went on crying there, not caring any longer to dry her face, her eyes, her arms. She could not have told why she was crying. Such experiences as the foregoing were not uncommon in her married life. They seemed never before to have weighed much against the abundance of her husband's kindness and a uniform devotion which had come to be tacit and self-understood.

An indescribable oppression, which seemed to generate in some unfamiliar part of her consciousness, filled her whole being with a vague anguish. It was like a shadow, like a mist passing across her soul's summer day. It was strange and unfamiliar; it was a mood. She did not sit there inwardly upbraiding her husband, lamenting at Fate, which had directed her footsteps to the path which they had taken. She was just having a good cry all to herself. The mosquitoes succeeded in dispelling a mood which might have held her there in the darkness half a night longer.

The following morning Mr. Pontellier was up in good time to take the carriage which was to convey him to the steamer at the wharf. He was returning to the city to his business, and they would not see him again at the Island till the coming Saturday. He had regained his composure, which seemed to have been somewhat impaired the night before. He was eager to be gone, as he looked forward to a lively week in the financial center.

Sample Questions

Following are four sample questions about this passage. In the actual test, as many as thirteen questions may appear with a passage of this length.

You may be asked to interpret information presented throughout the passage and to evaluate the effect of the language used by the author.

6. The narrator would most likely describe Mr. Pontellier's conduct during the evening as
- (A) typically generous
 - (B) justifiably impatient
 - (C) passionate and irrational
 - (D) patronizing and self-centered
 - (E) concerned and gentle

This question asks you to consider a large portion of the passage and to make an inference about the narrator's view of "Mr. Pontellier's conduct during the evening." To answer such a question, you should look carefully at the particular words used and details mentioned in the passage. In the first paragraph, Mr. Pontellier awakens his wife after his "night out"; he seems not to notice or care that she had been sound asleep. In lines 38-47, the narrator describes Mr. Pontellier speaking to his wife in a superior and condescending manner about "a mother's place" in caring for children and about how hard he works at "his brokerage business."

- (A) and (E) are not correct because the narrator does not depict Mr. Pontellier's words and actions during the evening as "generous" or "gentle."

- (B) is not correct because the narrator does not suggest that Mr. Pontellier’s conduct with his wife is justifiable.
- (C) is not correct; although Mr. Pontellier’s behavior is selfish and inconsiderate, it is not “passionate”—in fact, the narrator states that Mr. Pontellier “talked in a monotonous, insistent way.”
- (D) is correct because it accurately describes the narrator’s impression of Mr. Pontellier’s behavior during the evening, “patronizing and self-centered.” Someone who is “patronizing” has an attitude of superiority and thus treats others as if they were less important.

Correct answer: (D) / Difficulty level: Medium

Some questions ask you to focus on a specific piece of information presented in the passage.

7. In context, the description in lines 46-47 of Mr. Pontellier’s way of speaking suggests the narrator’s belief that his complaints are
- (A) stumbling and confused
 - (B) familiar and not as urgent as he claims
 - (C) angry and sarcastic
 - (D) too complex to make sense to anyone but himself
 - (E) both rational and thought-provoking

In lines 46-47, the narrator describes Mr. Pontellier’s “way of speaking” as “monotonous, insistent.” Previously, Mr. Pontellier had told his wife that one of their sons “had a high fever and needed looking after,” and he had criticized Mrs. Pontellier for her “habitual neglect of the children.” These are seemingly serious matters, and yet Mr. Pontellier is described as not at all excited in the way that he communicates his opinions to his wife.

- (A) is wrong because Mr. Pontellier speaks assertively to his wife throughout the passage, not in a “stumbling” or uncertain manner.
- (C) is wrong because statements that are “monotonous” and “insistent” are not “angry and sarcastic.”
- (D) and (E) are wrong because the narrator does not indicate that Mr. Pontellier’s statements to his wife are “too complex to make sense” or “rational and thought-provoking.” In fact, the terms “monotonous” and “insistent” suggest that the statements are rather dull and simpleminded.
- The correct answer is (B) because concerns that are voiced “in a monotonous, insistent way” are likely to be ones that are oft-repeated and “familiar,” and probably “not as urgent” as Mr. Pontellier claims. The statement in lines 53-55 also supports this answer: “When his cigar was smoked out he went to bed, and in half a minute was fast asleep.”

Correct answer: (B) / Difficulty level: Hard

Some questions require you to make an inference or draw a conclusion about what you have read.

8. In lines 56-92, Mrs. Pontellier’s reactions to her husband’s behavior on returning home suggest that
- (A) she accepts unquestioningly her role of caring for the children
 - (B) this is one of the first times she has acknowledged her unhappiness
 - (C) her marriage is not what is making her so depressed
 - (D) she is angry about something that happened before her husband went out
 - (E) she is not as worldly as her husband is

In these lines, Mrs. Pontellier cries for a long time while sitting alone on the porch. Her husband’s treatment of her has upset her greatly. The narrator indicates that such behavior by Mr. Pontellier was “not uncommon” but that Mrs. Pontellier had not previously been too bothered by such incidents: “They seemed never before to have weighed much against the abundance of her husband’s kindness”

- (A) is not correct because the issue of “caring for the children” is not the focus of this part of the passage; Mrs. Pontellier’s feelings of sadness and “oppression” are not related to her acceptance of “her role” as a mother.
- (C) is not correct because it is precisely her relationship with her husband that has made her “so depressed.”
- (D) is not correct because there is no indication in the passage that “something that happened before her husband went out” has made Mrs. Pontellier “angry.” In fact, it is his behavior after his return that has upset her.
- (E) is not correct because whether Mrs. Pontellier is “as worldly as her husband” is irrelevant to her reaction to his treatment of her; the passage suggests not that she lacks sophistication but that she lacks consideration.
- (B) is correct because Mrs. Pontellier’s “strange and unfamiliar” mood of “oppression” and “anguish” marks a new realization on her part of her “unhappiness” with her husband.

Correct answer: (B) / Difficulty level: Medium

You may be asked to consider the overall description of a character, event, or phenomenon across an entire passage.

9. The passage shows Mr. Pontellier as happiest when he
- (A) is attending to his children
 - (B) sits outside and smokes a cigar
 - (C) makes up with his wife after an argument
 - (D) has been away from home or is about to leave home
 - (E) has showered his children with gifts of candy

The passage begins with Mr. Pontellier “in an excellent humor,” having just returned after a night away from home. He becomes less happy, however, when his wife is too sleepy to talk with him, and when he discovers that his son Raoul “had a high fever and needed looking after.” Subsequently, he lectures his wife about their family roles and responsibilities, finishes his cigar, and goes to bed. The next morning, Mr. Pontellier has “regained his composure” and is “eager to be gone, as he looked forward to a lively week” away from his family at work.

- (A) and (E) are not correct because Mr. Pontellier gets upset the one time that he is “attending to” his sons, and he has forgotten to send them the treats that he had promised.
- (B) is not correct because Mr. Pontellier is described as neither happy nor unhappy while he smokes; there are other occasions in the passage when he is “happier.”
- (C) is not correct because the passage never shows Mr. Pontellier making up with his wife after their argument.
- (D) is the correct answer based on the description of a happy Mr. Pontellier at the beginning and the end of the passage, when “he has been away from home or is about to leave home.”

Correct answer: (D) / Difficulty level: Medium

Questions 10-13 are based on the following passages.

These two passages were adapted from autobiographical works. In the first, a playwright describes his first visit to a theater in the 1930's; in the second, an eighteenth-century writer describes two visits to theaters in London.

Passage 1

I experienced a shock when I saw a curtain go up for the first time. My mother had taken me to see a play at the Schubert
Line Theater on Lenox Avenue in Harlem in New
5 York City. Here were living people talking to one another inside a large ship whose deck actually heaved up and down with the swells of the sea. By this time I had been going to the movies every Saturday afternoon
10 —Charlie Chaplin’s little comedies, adventure serials, Westerns. Yet once you knew how they worked, movies, unlike the stage, left the mind’s grasp of reality intact since the happenings were not in the theater
15 where you sat. But to see the deck of the ship in the theater moving up and down, and people appearing at the top of a ladder or disappearing through a door—where did they come from and where did they go?
20 Obviously into and out of the real world of Lenox Avenue. This was alarming.

And so I learned that there were two kinds of reality, but that the stage was far

more real. As the play’s melodramatic story
25 developed, I began to feel anxious, for there was a villain on board who had a bomb and intended to blow everybody up. All over the stage people were looking for him but he appeared, furtive and silent, only when the
30 searchers were facing the other way. They looked for him behind posts and boxes and on top of beams, even after the audience had seen him jump into a barrel and pull the lid over him. People were yelling, “He’s
35 in the barrel,” but the passengers were deaf. What anguish! The bomb would go off any minute, and I kept clawing at my mother’s arm, at the same time glancing at the theater’s walls to make sure that the whole
40 thing was not really real. The villain was finally caught, and we happily walked out onto sunny Lenox Avenue, saved again.

Passage 2

I was six years old when I saw my first play at the Old Drury. Upon entering the
45 theater, the first thing I beheld was the green curtain that veiled a heaven to my imagination. What breathless anticipations I endured! I had seen something like it in an edition of Shakespeare, an illustration of the
50 tent scene with Diomede in *Troilus and Cressida*. (A sight of that image can always bring back in a measure the feeling of that evening.) The balconies at that time, full of well-dressed men and women, projected
55 over the orchestra pit; and the pilasters* reaching down were adorned with a glistening substance resembling sugar candy. The orchestra lights at length rose. Once the bell sounded. It was to ring out yet once again—
60 and, incapable of the anticipation, I reposed my shut eyes in a sort of resignation upon my mother’s lap. It rang the second time. The curtain drew up—and the play was *Artaxerxes!* Here was the court of ancient
65 Persia. I took no proper interest in the action going on, for I understood not its import. Instead, all my feeling was absorbed in vision. Gorgeous costumes, gardens, palaces, princesses, passed before me. It was
70 all enchantment and a dream.

After the intervention of six or seven years I again entered the doors of a theater. That old *Artaxerxes* evening had never done ringing in my fancy. I expected the same
75 feelings to come again with the same occasion. But we differ from ourselves less at sixty and sixteen, than the latter does from six. In that interval what had I not lost! At six I knew nothing, understood nothing,
80 discriminated nothing. I felt all, loved all,

wondered all. I could not tell how, but I had left the temple a devotee, and was returned a rationalist. The same things were there materially; but the emblem, the reference, 85 was gone. The green curtain was no longer a veil, drawn between two worlds, the unfolding of which was to bring back past ages, but a certain quantity of green material, which was to separate the audience for a given time 90 from certain of their fellows who were to come forward and pretend those parts. The lights—the orchestra lights—came up a clumsy machinery. The first ring, and the second ring, was now but a trick of the 95 prompter’s bell. The actors were men and women painted. I thought the fault was in them; but it was in myself, and the alteration which those many centuries—those six short years—had wrought in me.

* Pilasters are ornamental columns set into walls.

Sample Questions

Following are four sample questions about this pair of related passages. In the test, some questions will focus on Passage 1, others will focus on Passage 2, and about half or more of the questions following each pair of passages will focus on the relationships between the passages.

Some questions require you to identify shared ideas or similarities between the two related passages.

10. The authors of both passages describe
- (A) a young person’s sense of wonder at first seeing a play
 - (B) a young person’s desire to become a playwright
 - (C) the similarities between plays and other art forms
 - (D) how one’s perception of the theater may develop over time
 - (E) the experience of reading a play and then seeing it performed

To answer this question, you have to figure out what these two passages have in common. The subject of Passage 1 is a child’s first visit to see a play performed in a theater, and how captivated he was by the entire experience. Passage 2 describes two different visits to the theater; at age six the child is entranced by the spectacle of the performance but, “after the intervention of six or seven years,” the older and now more knowledgeable child is not so impressed. (A) is the correct answer because all of Passage 1 and the first half of Passage 2 describe “a young person’s sense of wonder at first seeing a play.”

- (B) is wrong; even though the introduction to these passages reveals that one of the authors is a “playwright,” there is no mention in either passage of a “desire to become a playwright.”

- (C) is wrong because Passage 1 mentions differences rather than “similarities” between plays and movies, and Passage 2 does not mention any “other art forms” at all.
- (D) is wrong because only Passage 2 discusses “how one’s perception of the theater may develop over time”—this subject is unmentioned in Passage 1.
- (E) is wrong because there is no reference in either passage to “the experience of reading a play.”

Correct answer: (A) / Difficulty level: Easy

Some questions assess your comprehension of information that is directly stated in a passage.

11. The “happenings” mentioned in line 14 refer to the
- (A) work undertaken to produce a movie
 - (B) events occurring in the street outside the theater
 - (C) fantasies imagined by a child
 - (D) activity captured on the movie screen
 - (E) story unfolding on the stage

To answer this question correctly, you have to understand lines 11–15, a rather complex sentence that makes an important distinction in Passage 1. The author indicates that, unlike plays, movies leave “the mind’s grasp of reality intact,” because the “happenings” in a movie are not occurring in the actual theater. Instead, images are projected on a screen in the theater. Thus (D) is the correct answer; the word “happenings” refers to the “activity captured on the movie screen.”

- (A) and (B) are wrong because, when you insert them in place of the word “happenings,” the sentence in lines 11-15 makes no sense.
- (C) is wrong; even if the movies being referred to include “fantasies” in them, they are not “imagined by a child” but are actually projected on the movie screen.
- (E) is wrong because, in line 14, “happenings” refers to the “story unfolding” in a movie, not “on the stage.”

Correct answer: (D) / Difficulty level: Medium

You may be asked to recognize the author’s tone or attitude in a particular part of a passage, or in the passage as a whole.

12. In the final sentence of Passage 2 (“I thought . . . in me”), the author expresses
- (A) exultation (B) vindication (C) pleasure
 - (D) regret (E) guilt

Even though this question focuses on a single sentence, you must understand the context in which the statement occurs in order to determine the feeling expressed by the author. In the second paragraph of Passage 2, the author states that the experience of attending a play at age 12 or 13 was much different than at age 6. “The same things were there materially” in the theater, but the older child knew

much more than the younger one about what was going on. Ironically, this increased knowledge actually decreased the author's pleasure in attending the play. "In that interval what had I not lost," the author exclaims in line 78. Where the younger child saw nobles in "the court of ancient Persia," the older child saw "men and women painted." Thus the final sentence of Passage 2 expresses "regret" concerning the changes that "those many centuries—those six short years—had wrought" in the author. (D) is the correct answer.

- (A) and (C) are incorrect because the author does not feel "exultation" about or take "pleasure" in the "alteration" that has occurred; on the contrary, the author laments it.
- (B) is incorrect because there is no expression of "vindication" in the final sentence; the author is not trying to justify, support, or defend the experiences described in the passage but rather explain the changes that have occurred due to the passage of time.
- (E) is incorrect because, even though the final sentence states that the "fault" was not in the actors but in the now more knowledgeable child, the author feels no "guilt" about the change. There is no way to avoid the passage of time (and the learning that goes along with it). Aging is not the child's "fault," but the loss of a youthful sense of wonder and innocence can still cause regret.

Correct answer: (D) / Difficulty level: Hard

Some questions require you to determine and compare the primary purpose or main idea expressed in each passage.

13. Which of the following best describes the difference between Passages 1 and 2 ?
- (A) Passage 1 remembers an event with fondness, while Passage 2 recalls a similar event with bitter detachment.
 - (B) Passage 1 considers why the author responded to the visit as he did, while Passage 2 supplies the author's reactions without further analysis.
 - (C) Passage 1 relates a story from a number of different perspectives, while Passage 2 maintains a single point of view.
 - (D) Passage 1 treats the visit to the theater as a disturbing episode in the author's life, while Passage 2 describes the author's visit as joyful.
 - (E) Passage 1 recounts a childhood experience, while Passage 2 examines how a similar experience changed over time.

This question asks you to do two things: first, understand the overall subject or purpose of each passage; second, recognize an important "difference between" the two. The correct answer is (E) because the entire first passage does indeed tell the story of a particular "childhood experience"—a trip to the theater—while the second passage describes two different trips to the theater and how the "experience changed over time."

- (A) is wrong because there is neither bitterness nor "detachment" in Passage 2. In fact, the first paragraph of Passage 2 expresses excitement and "enchantment," and the second paragraph expresses disappointment and regret.
- (B) is wrong because Passage 2 includes a great deal more than just "the author's reactions" to visiting the theater; most of the second paragraph provides "further analysis" of what had changed and why the reactions to the two visits were so different.
- (C) is wrong because it reverses the two narrative approaches in this pair of passages. Passage 1 "maintains a single point of view," that of the youthful first-time theatergoer, whereas the author of Passage 2 presents at least two "different perspectives," that of the enchanted six year old and of the older child returning to the theater.
- (D) is wrong because the author of Passage 1 does not find his first visit to the theater "disturbing" in a negative way. Although he feels "shock" when the curtain goes up and anxiety during the play, these responses merely indicate how effective and "real" the performance was for him. In the end, the child and his mother walked "happily" out of the theater.

Correct answer: (E) / Difficulty level: Easy

The Math Section

The math section of the SAT contains two types of questions:

- standard multiple-choice (44 questions)
- student-produced response questions that provide no answer choices (10 questions)

Some questions are like the questions in math textbooks. Others ask for original thinking and may not be as familiar to you.

Calculator Policy

We recommend that you bring a calculator to use on the math section of the SAT. Every question on the test can be solved without a calculator; however, using a calculator on some questions may be helpful to you. A scientific or graphing calculator is recommended.

Acceptable Calculators

Calculators permitted during testing are:

- graphing calculators
- scientific calculators
- four-function calculators (not recommended)

If you have a calculator with characters that are 1 inch or higher, or if your calculator has a raised display that might be visible to other test-takers, you will be seated at the discretion of the test supervisor.

You will not be allowed to share calculators. You will be dismissed and your scores canceled if you use your calculator to share information during the test or to remove test questions or answers from the test room.

Unacceptable Calculators

Unacceptable calculators are those that:

- use QWERTY (typewriter-like) keypads
- require an electrical outlet
- “talk” or make unusual noises
- use paper tape
- are electronic writing pads, pen input/stylus-driven devices, pocket organizers, cell phones, power-books, or handheld or laptop computers

Approaches to the Math Section

- Familiarize yourself with the directions ahead of time. Also learn how to complete the grids for student-produced response questions.
- Ask yourself the following questions before you solve each problem: What is the question asking? What do I know?
- Limit your time on any one question. All questions are worth the same number of points. If you need a lot of time to answer a question, go on to the next one. Later, you may have time to return to the question you skipped.
- Keep in mind that questions are generally arranged from easy to hard. Within any group of questions—for example, the multiple-choice questions—the easier ones come first and the questions become more difficult as you move along.
- Don't make mistakes because of carelessness. No matter how frustrated you are, don't pass over questions without at least reading them, and be sure to consider all the choices in each question. If you're careless, you could choose the wrong answers even on easy questions.
- Work out the problems in your test booklet. You will not receive credit for anything written in the booklet, but you will be able to check your work easily later.
- Eliminate choices. If you don't know the correct answer to a question, try eliminating wrong choices. It's sometimes easier to find the wrong answers than the correct one. On some questions, you can eliminate all the incorrect choices. Draw a line through each choice as you eliminate it until you have only the one correct answer left.
- Keep in mind that on student-produced response (grid-in) questions you don't lose points for wrong answers. Make an educated guess if you don't know the answer.
- For student-produced response questions, always enter your answer on the grid. Remember: for grid-in questions only answers entered on the grid are scored. Your handwritten answer at the top of the grid isn't scored. However, writing your answer at the top of the grid may help you avoid gridding errors.

Important: For grid-in questions only answers entered on the grid are scored. Your handwritten answer at the top of the grid is not scored.

MATHEMATICS CONTENT

For the new SAT, the mathematics content level of the test will be raised to include more advanced topics. The following math concepts will be covered beginning with the March 2005 test.

Number and Operation

- Arithmetic word problems (including percent, ratio, and proportion)
- Properties of integers (even, odd, prime numbers, divisibility, etc.)
- Rational numbers
- Logical reasoning
- Sets (union, intersection, elements)
- Counting techniques
- Sequences and series (including exponential growth)
- Elementary number theory

Algebra and Functions

- Substitution and simplifying algebraic expressions
- Properties of exponents
- Algebraic word problems
- Solutions of linear equations and inequalities
- Systems of equations and inequalities
- Quadratic equations
- Rational and radical equations
- Equations of lines
- Absolute value
- Direct and inverse variation
- Concepts of algebraic functions
- Newly defined symbols based on commonly used operations

Geometry and Measurement

- Area and perimeter of a polygon
- Area and circumference of a circle
- Volume of a box, cube, and cylinder
- Pythagorean Theorem and special properties of isosceles, equilateral, and right triangles
- Properties of parallel and perpendicular lines
- Coordinate geometry
- Geometric visualization
- Slope
- Similarity
- Transformations

Data Analysis, Statistics, and Probability

- Data interpretation
- Statistics (mean, median, and mode)
- Probability

ARITHMETIC AND ALGEBRAIC CONCEPTS

- **Integers:** $\dots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \dots$
(Note: zero is neither positive nor negative.)
- **Consecutive Integers:** Integers that follow in sequence; for example, 22, 23, 24, 25. Consecutive integers can be more generally represented by $n, n + 1, n + 2, n + 3, \dots$
- **Odd Integers:** $\dots, -7, -5, -3, -1, 1, 3, 5, 7, \dots, 2k + 1, \dots$ where k is an integer
- **Even Integers:** $\dots, -6, -4, -2, 0, 2, 4, 6, \dots, 2k, \dots$, where k is an integer (Note: zero is an even integer.)
- **Prime Numbers:** 2, 3, 5, 7, 11, 13, 17, 19, \dots
(Note: 1 is not a prime and 2 is the only even prime.)
- **Digits:** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
(Note: the units digit and the ones digit refer to the same digit in a number. For example, in the number 125, the 5 is called the units digit or the ones digit.)

Percent

Percent means hundredths, or number out of 100. For example, 40 percent means $\frac{40}{100}$ or 0.40 or $\frac{2}{5}$.

Problem 1: If the sales tax on a \$30.00 item is \$1.80, what is the sales tax rate?

$$\text{Solution: } \$1.80 = \frac{n}{100} \times \$30.00$$

$n = 6$, so 6% is the sales tax rate.

Percent Increase / Decrease

Problem 2: If the price of a computer was decreased from \$1,000 to \$750, by what percent was the price decreased?

Solution: The price decrease is \$250. The percent decrease is the value of n in the equation $\frac{250}{1,000} = \frac{n}{100}$. The value of n is 25, so the price was decreased by 25%.

$$\text{Note: } n\% \text{ increase means } \frac{\text{increase}}{\text{original}} = \frac{n}{100};$$

$$n\% \text{ decrease means } \frac{\text{decrease}}{\text{original}} = \frac{n}{100}.$$

Average

An **average** is a statistic that is used to summarize data. The most common type of average is the **arithmetic mean**. The average (arithmetic mean) of a list of n numbers is equal to the sum of the numbers divided by n .

For example, the mean of 2, 3, 5, 7, and 13 is equal to

$$\frac{2 + 3 + 5 + 7 + 13}{5} = 6$$

When the average of a list of n numbers is given, the sum of the numbers can be found. For example, if the average of six numbers is 12, the sum of these six numbers is 12×6 or 72.

The **median** of a list of numbers is the number in the middle when the numbers are ordered from greatest to least or from least to greatest. For example, the median of 3, 8, 2, 6, and 9 is 6 because when the numbers are ordered, 2, 3, 6, 8, 9, the number in the middle is 6. When there is an even number of values, the median is the same as the mean of the two middle numbers. For example, the median of 6, 8, 9, 13, 14, and 16 is the mean of 9 and 13, which is 11.

The **mode** of a list of numbers is the number that occurs most often in the list. For example, 7 is the mode of 2, 7, 5, 8, 7, and 12. The numbers 2, 4, 2, 8, 2, 4, 7, 4, 9, and 11 have two modes, 2 and 4.

Note: On the SAT, the use of the word average refers to the arithmetic mean and is indicated by “average (arithmetic mean).” The exception is when a question involves average speed (see problem below). Questions involving median and mode will have those terms stated as part of the question’s text.

Average Speed

Problem: José traveled for 2 hours at a rate of 70 kilometers per hour and for 5 hours at a rate of 60 kilometers per hour. What was his average speed for the 7-hour period?

Solution: In this situation, the average speed is

$$\frac{\text{total distance}}{\text{total time}}$$

The total distance is $2 \text{ hr} \left(70 \frac{\text{km}}{\text{hr}} \right) + 5 \text{ hr} \left(60 \frac{\text{km}}{\text{hr}} \right)$
 $= 440 \text{ km}.$

The total time is 7 hours. Thus, the average speed was

$$\frac{440 \text{ km}}{7 \text{ hr}} = 62 \frac{6}{7} \text{ kilometers per hour.}$$

Note: In this example, the average speed is **not the average** of the two separate speeds, which would be 65 kilometers per hour.

Factoring

You may need to apply these types of factoring:

$$x^2 + 2x = x(x + 2)$$

$$x^2 - 1 = (x + 1)(x - 1)$$

$$x^2 + 2x + 1 = (x + 1)(x + 1) = (x + 1)^2$$

$$2x^2 + 5x - 3 = (2x - 1)(x + 3)$$

Probability

Probability refers to the chance that a specific outcome can occur. It can be found by using the following definition when outcomes are equally likely:

$$\frac{\text{Number of ways that a specific outcome can occur}}{\text{Total number of possible outcomes}}$$

For example, if a jar contains 13 red marbles and 7 green marbles, the probability that a marble selected from the jar at random will be green is

$$\frac{7}{7 + 13} = \frac{7}{20} \text{ or } 0.35$$

If a particular outcome can never occur, its probability is 0. If an outcome is certain to occur, its probability is 1. In general, if p is the probability that a specific outcome will occur, values of p fall in the range $0 \leq p \leq 1$. Probability may be expressed as either a decimal or a fraction.

Functions

A function is a relation in which each element of the domain is paired with *exactly* one element of the range. On the SAT, unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number. For example, if

$f(x) = \sqrt{x + 2}$, the domain of f is all real numbers greater than or equal to -2 . For this function, 14 is paired with 4, since $f(14) = \sqrt{14 + 2} = \sqrt{16} = 4$.

Note: the $\sqrt{\quad}$ symbol represents the positive, or principal, square root. For example, $\sqrt{16} = 4$, not ± 4 .

Exponents

You should be familiar with the following rules for exponents on the SAT.

For all values of a, b, x, y :

$$x^a \cdot x^b = x^{a+b} \quad (x^a)^b = x^{a \cdot b} \quad (xy)^a = x^a \cdot y^a$$

For all values of $a, b, x \neq 0, y \neq 0$:

$$\frac{x^a}{x^b} = x^{a-b} \quad \left(\frac{x}{y}\right)^a = \frac{x^a}{y^a} \quad x^{-a} = \frac{1}{x^a}$$

$$x^{\frac{a}{b}} = \sqrt[b]{x^a} \quad \text{For example, } x^{\frac{2}{3}} = \sqrt[3]{x^2}$$

Note: For any nonzero number x , $x^0 = 1$

Sequences

Two common types of sequences that appear on the SAT are arithmetic and geometric sequence.

An **arithmetic sequence** is a sequence in which successive terms differ by the same constant amount.

For example: 3, 5, 7, 9, ... is an arithmetic sequence.

A **geometric sequence** is a sequence in which the ratio of successive terms is a constant.

For example: 2, 4, 8, 16, ... is a geometric sequence.

A sequence may also be defined using previously defined terms. For example, the first term of a sequence is 2, and each successive term is 1 less than twice the preceding term. This sequence would be 2, 3, 5, 9, 17, ...

On the SAT, explicit rules are given for each sequence. For example, in the geometric sequence above, you would not be expected to know that the 5th term is 32 unless you were given the fact that each term is twice the preceding term. For sequences on the SAT, the first term is never referred to as the zeroth term.

Variation

Direct Variation: The variable y is directly proportional to the variable x if there exists a nonzero constant k such that $y = kx$.

Inverse Variation: The variable x is inversely proportional to the variable y if there exists a nonzero constant k such that $x = \frac{k}{y}$ or $xy = k$.

Absolute Value

The absolute value of x is defined as the distance from x to zero on the number line. The absolute value of x is written in the form $|x|$. For all real numbers x :

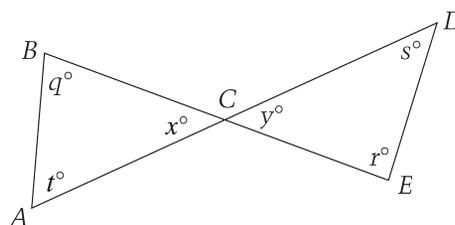
$$|x| = \begin{cases} x, & \text{if } x \geq 0 \\ -x, & \text{if } x < 0 \end{cases}$$

For example:
$$\begin{cases} |2| = 2, & \text{since } 2 > 0 \\ |-2| = 2, & \text{since } -2 < 0 \\ |0| = 0 \end{cases}$$

GEOMETRIC CONCEPTS

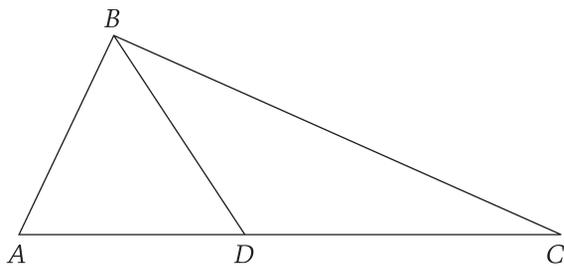
Figures that accompany problems are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a particular problem that the figure is not drawn to scale. In general, even when figures are not drawn to scale, the relative positions of points and angles may be assumed to be in the order shown. Also, line segments that extend through points and appear to lie on the same line may be assumed to be on the same line. The text “**Note:** Figure not drawn to scale” is included with the figure when degree measures may not be accurately shown and specific lengths may not be drawn proportionally. The following examples illustrate what information can and cannot be assumed from figures.

Example 1:



Since \overline{AD} and \overline{BE} are line segments, angles ACB and DCE are vertical angles. Therefore, you can conclude that $x = y$. Even though the figure is drawn to scale, you should NOT make any other assumptions without additional information. For example, you should NOT assume that $AC = CD$ or that the angle at vertex E is a right angle even though they might look that way in the figure.

Example 2:



Note: Figure not drawn to scale

A question may refer to a triangle such as ABC above. Although the note indicates that the figure is not drawn to scale, you may assume the following:

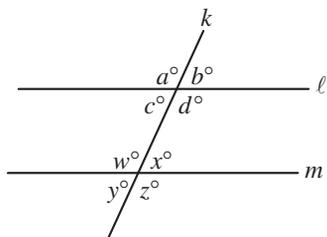
- ABD and DBC are triangles.
- D is between A and C .
- A , D , and C are points on a line.
- The length of \overline{AD} is less than the length of \overline{AC} .
- The measure of angle ABD is less than the measure of angle ABC .

You may *not* assume the following:

- The length of \overline{AD} is less than the length of \overline{DC} .
- The measures of angles BAD and BDA are equal.
- The measure of angle ABD is greater than the measure of angle DBC .
- Angle ABC is a right angle.

Geometric Skills and Concepts

Properties of Parallel Lines



1. If two parallel lines are cut by a third line, the alternate interior angles are congruent. In the figure above,

$$c = x \text{ and } w = d$$

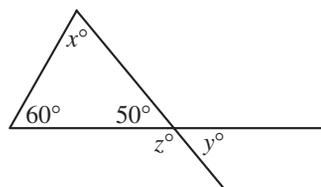
2. If two parallel lines are cut by a third line, the corresponding angles are congruent. In the figure,

$$a = w, \quad c = y, \quad b = x \text{ and } d = z$$

3. If two parallel lines are cut by a third line, the sum of the measures of the interior angles on the same side of the transversal is 180° . In the figure,

$$c + w = 180 \text{ and } d + x = 180$$

Angle Relationships



1. The sum of the measures of the interior angles of a triangle is 180° . In the figure above,

$$x = 70 \text{ because } 60 + 50 + x = 180$$

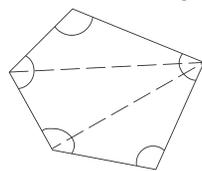
2. When two lines intersect, vertical angles are congruent. In the figure,

$$y = 50$$

3. A straight angle measures 180° . In the figure,

$$z = 130 \text{ because } z + 50 = 180$$

4. The sum of the measures of the interior angles of a polygon can be found by drawing all diagonals of the polygon from one vertex and multiplying the number of triangles formed by 180° .



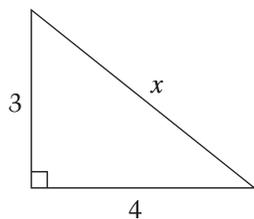
Since the polygon is divided into 3 triangles, the sum of the measures of the angles is $3 \times 180^\circ$, or 540° .

Unless otherwise noted in the SAT, the term “polygon” will be used to mean a convex polygon, that is, a polygon in which each interior angle has a measure of less than 180° .

A polygon is “regular” if all sides are congruent and all angles are congruent.

Side Relationships

1. Pythagorean Theorem: In any right triangle $a^2 + b^2 = c^2$, where c is the length of the longest side and a and b are the lengths of the two shorter sides.



To find the value of x , use the Pythagorean Theorem.

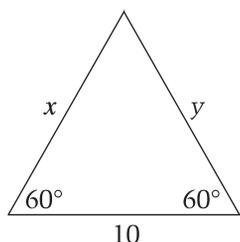
$$x^2 = 3^2 + 4^2$$

$$x^2 = 9 + 16$$

$$x^2 = 25$$

$$x = \sqrt{25} = 5$$

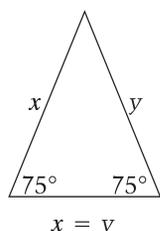
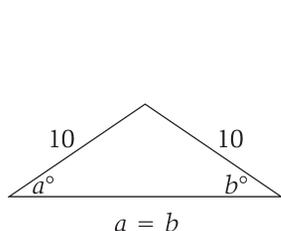
2. In any equilateral triangle, all sides are congruent and all angles are congruent.



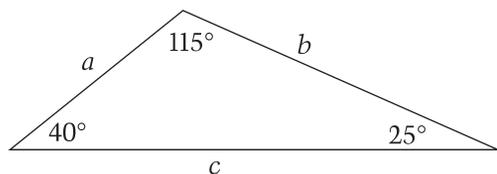
Because the measure of the unmarked angle is 60° , the measures of all angles of the triangle are equal; and, therefore, the lengths of all sides of the triangle are equal:

$$x = y = 10$$

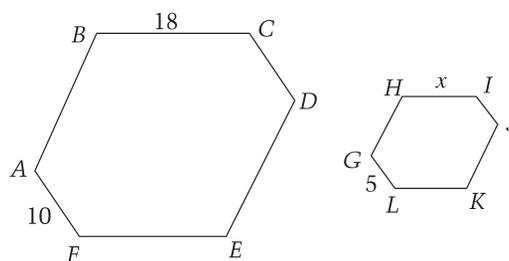
3. In an isosceles triangle, the angles opposite congruent sides are congruent. Also, the sides opposite congruent angles are congruent. In the figures below, $a = b$ and $x = y$.



4. In any triangle, the longest side is opposite the largest angle, and the shortest side is opposite the smallest angle. In the figure below, $a < b < c$.



5. Two polygons are *similar* if and only if the lengths of their corresponding sides are in the same ratio and the measures of their corresponding angles are equal.



If polygons $ABCDEF$ and $GHIJKL$ are similar and \overline{AF} and \overline{GL} are corresponding sides, then

$$\frac{AF}{GL} = \frac{10}{5} = \frac{2}{1} = \frac{BC}{HI} = \frac{18}{x}. \text{ Therefore, } x = 9 = HI.$$

Note: \overline{AF} means the line segment with endpoints A and F , AF means the length of \overline{AF} .

Area and Perimeter

Rectangles

Area of a rectangle = length \times width = $\ell \times w$

Perimeter of a rectangle = $2(\ell + w) = 2\ell + 2w$

Circles

Area of a circle = πr^2 (where r is the radius)

Circumference of a circle = $2\pi r = \pi d$ (where d is the diameter)

Triangles

Area of a triangle = $\frac{1}{2}(\text{base} \times \text{altitude})$

Perimeter of a triangle = the sum of the lengths of the three sides

The sum of the lengths of any two sides of a triangle must be greater than the length of the third side.

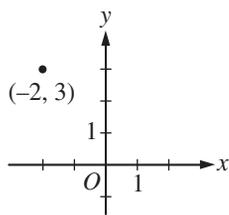
Volume

Volume of a rectangular solid (or cube) = $\ell \times w \times h$
(ℓ is the length, w is the width, and h is the height)

Volume of a right circular cylinder = $\pi r^2 h$
(r is the radius of the base, and h is the height)

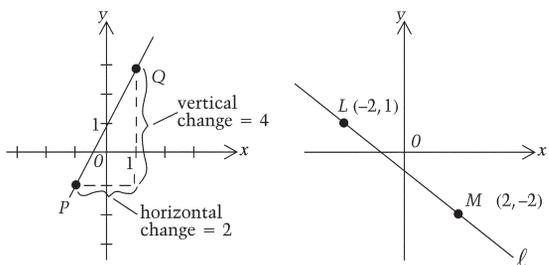
Be familiar with what formulas are provided in the Reference Information with the test directions. Refer to the test directions in the sample test in this publication.

Coordinate Geometry



- In questions that involve the x - and y -axes, x -values to the right of the y -axis are positive and x -values to the left of the y -axis are negative. Similarly, y -values above the x -axis are positive and y -values below the x -axis are negative. In an ordered pair (x, y) , the x -coordinate is written first. For example, in the pair $(-2, 3)$, the x -coordinate is -2 and the y -coordinate is 3 .

- Slope of a line = $\frac{\text{rise}}{\text{run}} = \frac{\text{change in } y\text{-coordinates}}{\text{change in } x\text{-coordinates}}$



$$\text{Slope of } \overline{PQ} = \frac{4}{2} = 2$$

$$\text{Slope of } \ell = \frac{1 - (-2)}{-2 - 2} = -\frac{3}{4}$$

A line that slopes upward as you go from left to right has a *positive* slope. A line that slopes downward as you go from left to right has a *negative* slope. A horizontal line has a slope of zero. The slope of a vertical line is undefined.

Parallel lines have the same slope. The product of the slopes of two perpendicular lines is -1 , provided the slope of each of the lines is defined. For example, any line perpendicular to line ℓ above has a slope of $\frac{4}{3}$.

The equation of a line can be expressed as $y = mx + b$, where m is the slope and b is the

y -intercept. Since the slope of line ℓ is $-\frac{3}{4}$,

the equation of line ℓ can be expressed

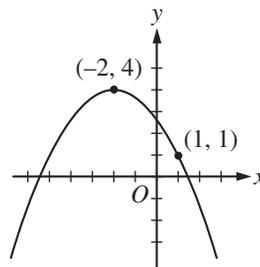
as $y = -\frac{3}{4}x + b$. Since the point $(-2, 1)$ is on

the line, $x = -2$ and $y = 1$ must satisfy the equation.

Hence, $1 = \frac{3}{2} + b$, so $b = -\frac{1}{2}$ and the equation

of line ℓ is $y = -\frac{3}{4}x - \frac{1}{2}$.

- The equation of a parabola can be expressed as $y = a(x - h)^2 + k$ where the vertex of the parabola is at the point (h, k) and $a \neq 0$. If $a > 0$, the parabola opens upward; and if $a < 0$, the parabola opens downward.



The parabola above has its vertex at $(-2, 4)$.

Therefore, $h = -2$ and $k = 4$. The equation can be represented by $y = a(x + 2)^2 + 4$. Since the parabola opens downward, we know that $a < 0$.

To find the value of a , you also need to know another point on the parabola. Since we know the parabola passes through the point $(1, 1)$,

$x = 1$ and $y = 1$ must satisfy the equation. Hence,

$1 = a(1 + 2)^2 + 4$, so $a = -\frac{1}{3}$. Therefore, the

equation for the parabola is $y = -\frac{1}{3}(x + 2)^2 + 4$.

Multiple-Choice Questions

The questions that follow will give you an idea of the type of mathematical thinking required to solve problems on the SAT. First, try to answer each question yourself and then read the solutions that follow. These solutions may give you new insights into solving the problems or point

out techniques you'll be able to use again. Most problems can be solved in a variety of ways, so don't be concerned if your method is different from the one given. Note that the directions indicate that you are to select the best of the choices given.

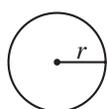
Directions

For this section, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratchwork.

Notes

- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

Reference Information

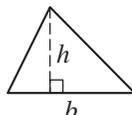


$$A = \pi r^2$$

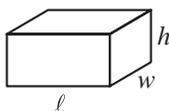
$$C = 2\pi r$$



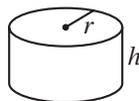
$$A = \ell w$$



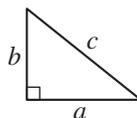
$$A = \frac{1}{2}bh$$



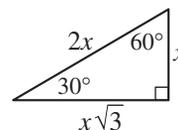
$$V = \ell wh$$



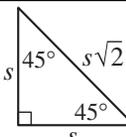
$$V = \pi r^2 h$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



The number of degrees of arc in a circle is 360.
The sum of the measures in degrees of the angles of a triangle is 180.

Sample Questions

Below are seven examples of standard multiple-choice questions. Following each question, you will find one or two solutions.

- A special lottery is to be held to select the student who will live in the only deluxe room in a dormitory. There are 100 seniors, 150 juniors, and 200 sophomores who applied. Each senior's name is placed in the lottery 3 times; each junior's name, 2 times; and each sophomore's name, 1 time. What is the probability that a senior's name will be chosen?

- (A) $\frac{1}{8}$ (B) $\frac{2}{9}$ (C) $\frac{2}{7}$
(D) $\frac{3}{8}$ (E) $\frac{1}{2}$

Correct answer: (D) / Difficulty level: Medium

To determine the probability that a senior's name will be chosen, you must determine the total number of seniors' names that are in the lottery and divide this number by the total number of names in the lottery. Since each senior's name is placed in the lottery 3 times, there are $3 \times 100 = 300$ seniors' names. Likewise, there are $2 \times 150 = 300$ juniors' names and $1 \times 200 = 200$ sophomores' names in the lottery. The probability that a senior's name will be chosen is

$$\frac{300}{300 + 300 + 200} = \frac{300}{800} = \frac{3}{8}$$

NOONTIME TEMPERATURES IN HILO, HAWAII

Mon	Tue	Wed	Thu	Fri	Sat	Sun
66	78	75	69	78	77	70

2. The table above shows the temperatures, in degrees Fahrenheit, in a city in Hawaii over a one-week period. If m represents the median temperature, f represents the temperature that occurs most often, and a represents the average (arithmetic mean) of the seven temperatures, which of the following is the correct order of m , f , and a ?
- (A) $a < m < f$ (B) $a < f < m$ (C) $m < a < f$
 (D) $m < f < a$ (E) $a = m < f$

Correct answer: (A) / Difficulty level: Medium

To determine the correct order of m , f , and a , it is helpful to first place the seven temperatures in ascending order as shown below.

66 69 70 75 77 78 78

The median temperature is the middle temperature in the ordered list, which is 75, so $m = 75$. The temperature that occurs most often, or the mode, is 78, so $f = 78$. To determine the average, you can add the seven numbers together and divide by 7. However, you can determine the relationship between the average and the median by inspection. The three numbers greater than 75 are closer to 75 than are the three numbers smaller than 75. Therefore, the average of the seven numbers will be less than 75. The correct order of m , f , and a is $a < m < f$.

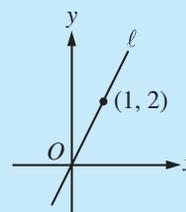
3. The projected sales volume of a video game cartridge is given by the function $s(p) = \frac{3000}{2p + a}$, where s is the number of cartridges sold, in thousands; p is the price per cartridge, in dollars; and a is a constant. If according to the projections, 100,000 cartridges are sold at \$10 per cartridge, how many cartridges will be sold at \$20 per cartridge?
- (A) 20,000 (B) 50,000 (C) 60,000
 (D) 150,000 (E) 200,000

Correct answer: (C) / Difficulty level: Medium

For 100,000 cartridges sold at \$10 per cartridge, $s = 100$ (since s is the number of cartridges sold, in thousands) and $p = 10$. Substituting into the equation yields $100 = \frac{3000}{2(10) + a}$. Solving this equation for a yields

$$\begin{aligned} 100(20 + a) &= 3000 \\ 20 + a &= 30 \\ a &= 10. \end{aligned}$$

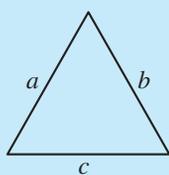
Since a is a constant, the function can be written as $s(p) = \frac{3000}{2p + 10}$. To determine how many cartridges will be sold at \$20 per cartridge, you need to evaluate $s(20) = \frac{3000}{2(20) + 10} = 60$. Since s is given in thousands, there will be 60,000 cartridges sold at \$20 per cartridge.



4. In the xy -coordinate plane above, line ℓ contains the points $(0,0)$ and $(1,2)$. If line m (not shown) contains the point $(0,0)$ and is perpendicular to ℓ , what is an equation of m ?
- (A) $y = -\frac{1}{2}x$ (B) $y = -\frac{1}{2}x + 1$ (C) $y = -x$
 (D) $y = -x + 2$ (E) $y = -2x$

Correct Answer: (A) / Difficulty level: Medium

Since the coordinates of two points on line ℓ are given, the slope of ℓ is $\frac{2 - 0}{1 - 0} = 2$. Line m , which is perpendicular to ℓ , will have a slope of $-\frac{1}{2}$, since slopes of perpendicular lines are negative reciprocals of each other. The equation of m can be written as $y = -\frac{1}{2}x + b$. Since line m also contains point $(0,0)$, it follows that $b = 0$. Therefore, an equation of line m is $y = -\frac{1}{2}x$.



Note: Figure not drawn to scale.

5. If two sides of the triangle above have lengths 5 and 6, the perimeter of the triangle could be which of the following?

- I. 11
II. 15
III. 24

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

Correct answer: (B) / Difficulty level: Medium

In questions of this type, statements I, II, and III should each be considered independently of the others. You must determine which of those statements *could* be true.

- Statement I cannot be true. The perimeter of the triangle cannot be 11 since the sum of the two given sides is 11 without even considering the third side of the triangle.
- Continuing to work the problem, you see that in II, if the perimeter were 15, then the third side of the triangle would be $15 - (6 + 5)$, or 4. A triangle can have side lengths of 4, 5, and 6. So the perimeter of the triangle could be 15.
- Finally, consider whether it is possible for the triangle to have a perimeter of 24. In this case, the third side of the triangle would be $24 - (6 + 5) = 13$. The third side of this triangle cannot be 13, since the sum of the other two sides is not greater than 13. By the Triangle Inequality, the sum of the lengths of any two sides of a triangle must be greater than the length of the third side. So the correct answer is II only.

6. If $x > 1$ and $\frac{\sqrt{x}}{x^3} = x^m$, what is the value of m ?

- (A) $-\frac{7}{2}$ (B) -3 (C) $-\frac{5}{2}$
(D) -2 (E) $-\frac{3}{2}$

Correct answer: (C) / Difficulty level: Medium

Since \sqrt{x} can be written as $x^{\frac{1}{2}}$ and $\frac{1}{x^3}$ can be written as x^{-3} , the left side of the equation is $x^{\frac{1}{2}} \cdot x^{-3} = x^{\left(\frac{1}{2} - 3\right)} = x^{-\frac{5}{2}}$. Since $x^{-\frac{5}{2}} = x^m$, the value of m is $-\frac{5}{2}$.

7. If k is divisible by 2, 3, and 15, which of the following is also divisible by these numbers?

- (A) $k + 5$ (B) $k + 15$ (C) $k + 20$
(D) $k + 30$ (E) $k + 45$

Correct answer: (D) / Difficulty level: Medium

Since k is divisible by 2, 3, and 15, k must be a multiple of 30, as 30 is the least common multiple of 2, 3, and 15. Some multiples of 30 are 0, 30, 60, 90, and 120.

- If you add two multiples of 30, the sum will also be a multiple of 30. For example, 60 and 90 are multiples of 30 and their sum, 150, is also a multiple of 30.
- If you add a multiple of 30 to a number that is not a multiple of 30, the sum will not be a multiple of 30. For example, 60 is a multiple of 30 and 45 is not. Their sum, 105, is not a multiple of 30.
- The question asks which answer choice is divisible by 2, 3, and 15; that is, which answer choice is a multiple of 30. All the answer choices are in the form of “ k plus a number.” Only choice (D), $k + 30$, is the sum of k and a multiple of 30. The sum of k and 30 is also a multiple of 30, so the correct answer is choice (D).

Sample Questions

Below are five examples of student-produced response questions. Following each question, you will find a solution and several ways to enter the correct answer.

$$\begin{aligned} |4x - 7| &= 5 \\ |3 - 8x| &= 1 \end{aligned}$$

8. What value of x satisfies both of the equations above?

	1	/	2
•	✓	•	•
0	0	0	0
1	•	1	1
2	2	2	•
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

•	5		
•	✓	✓	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	•	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Since $|4x - 7| = 5$, the value of $4x - 7$ is either 5 or -5 .

$$\begin{aligned} 4x - 7 &= 5 & 4x - 7 &= -5 \\ 4x &= 12 & \text{or} & 4x &= 2 \\ x &= 3 & & x &= \frac{1}{2} \end{aligned}$$

The two values of x that satisfy the first equation are 3 and $\frac{1}{2}$.

Since $|3 - 8x| = 1$, the value of $3 - 8x$ is either 1 or -1 .

$$\begin{aligned} 3 - 8x &= 1 & 3 - 8x &= -1 \\ 8x &= 2 & \text{or} & 8x &= 4 \\ x &= \frac{1}{4} & & x &= \frac{1}{2} \end{aligned}$$

The two values of x that satisfy the second equation are $\frac{1}{4}$ and $\frac{1}{2}$. You are asked to find the value of x that satisfies both equations. That value is $\frac{1}{2}$. The answer can be entered in the grid as $1/2$ or $.5$.

Difficulty level: Hard

9. For all positive integers a and b , let $a \blacklozenge b$ be defined by $a \blacklozenge b = \frac{a^b + 1}{a - 1}$. What is the value of $4 \blacklozenge 2$?

1	7	/	3
•	✓	•	•
0	0	0	0
•	1	1	1
2	2	2	2
3	3	3	•
4	4	4	4
5	5	5	5
6	6	6	6
7	•	7	7
8	8	8	8
9	9	9	9

5	.	6	6
•	✓	✓	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	•	5	5
6	6	•	•
7	7	7	7
8	8	8	8
9	9	9	9

5	.	6	7
•	✓	✓	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	•	5	5
6	6	•	•
7	7	7	•
8	8	8	8
9	9	9	9

The words “let $a \blacklozenge b$ be defined by” tell you that the symbol \blacklozenge is not supposed to represent a common mathematical operation but one that is made up for this question. To evaluate $4 \blacklozenge 2$, you would substitute 4 for a and 2 for b in the expression $\frac{a^b + 1}{a - 1}$. This gives $\frac{4^2 + 1}{4 - 1}$, which equals $\frac{17}{3}$. The answer may be entered in the grid as $17/3$ or 5.66 or 5.67 .

Difficulty level: Medium

10. Of the 6 courses offered by the music department at her college, Kay must choose exactly 2 of them. How many different combinations of 2 courses are possible for Kay if there are no restrictions on which 2 courses she can choose?

		1	5
•	✓	✓	•
0	0	0	0
1	1	•	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	•
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

There are 6 courses offered; let us refer to them as 1, 2, 3, 4, 5, and 6. One way to find the number of combinations is to list all possible pairings. They are 1-2, 1-3, 1-4, 1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-4, 3-5, 3-6, 4-5, 4-6, and 5-6. There are 15 combinations. Note that 1-2 and 2-1 represent the same combination.

You could also notice that there are 5 pairings that start with course 1 and 4 additional pairings that start with course 2, and so forth. The total number of combinations is $5 + 4 + 3 + 2 + 1 = 15$.

You could also solve the problem by noting that the total number of permutations (that is, the number of different ways 2 of 6 courses could be selected) is 6 for the first course selected times 5 for the second course selected, or $6 \times 5 = 30$. To find the number of combinations, you must divide the number of permutations by the number of arrangements. For each pair of courses $A-B$ selected, the arrangement $B-A$ is also possible. Therefore, there are 2 arrangements. So, the number of combinations is $30 \div 2 = 15$.

Difficulty level: Medium

11. If $f(x) = x^2 - 7x + 10$ and $f(t + 1) = 0$, what is one possible value of t ?

/			
•	✓	✓	
•	•	•	•
0	0	0	0
●	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

4			
•	✓	✓	
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	●
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Since $f(x) = x^2 - 7x + 10$, substituting $(t + 1)$ for x into the function yields $f(t + 1) = (t + 1)^2 - 7(t + 1) + 10$, or $f(t + 1) = (t^2 + 2t + 1) - (7t + 7) + 10$, or $f(t + 1) = t^2 - 5t + 4$.

Since $f(t + 1) = 0$, $t^2 - 5t + 4 = 0$, or $(t - 1)(t - 4) = 0$.

Therefore $t = 1$ or $t = 4$.

Another way to solve the question would be to use a dummy variable k . For example, let $k = t + 1$.

$f(k) = k^2 - 7k + 10 = (k - 5)(k - 2)$. Since $k = t + 1$ and $f(t + 1) = 0$, $f(k) = 0$. So $(k - 5)(k - 2) = 0$, and

therefore, $k = 5$ or $k = 2$. Since $t = k - 1$, $t = 4$ or $t = 1$.

This question asks for *one possible* value of x . Either 1 or 4 (not both) satisfy the question being asked. Choose only one correct answer to enter in the grid.

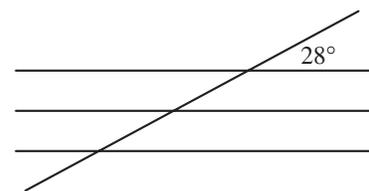
When there is a range of possible correct answers, your *gridded response* must lie within the range. For example, consider a problem for which all numbers between 4 and 5, exclusive, are correct answers. For this problem, although 4.0002 is within the range ($4 < x < 5$), its rounded value 4.00 is not within the range and would not therefore be considered a correct answer to the problem.

Difficulty level: Hard

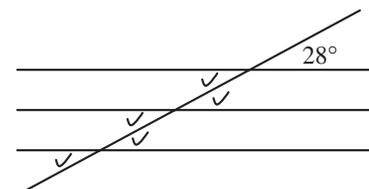
12. Three parallel lines in a plane are intersected by a fourth line, forming twelve angles. If one of the angles has measure 28° , how many of the other eleven angles have measure 28° ?

5			
•	✓	✓	•
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	●
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

Drawing the figure described in the problem will help you visualize the correct solution to the problem. The figure below shows three parallel lines intersected by a fourth line. The acute angle is labeled 28° .



Using the fact that vertical angles and alternate interior angles are equal, you can put a check showing the other angles in the figure that also measure 28° , as shown below.



There are 5 other angles that measure 28° . Therefore, the correct answer to this problem is 5. The number 5 can be gridded in any of the four columns on the answer grid.

Difficulty level: Easy

The Writing Section

The new writing section includes both multiple-choice questions and a direct writing measure in the form of an essay.

The multiple-choice questions will test:

- improving sentences (25 questions)
- identifying sentence errors (18 questions)
- improving paragraphs (6 questions)

Multiple-choice writing questions are more about the mechanics of writing than the process of composing. They will assess your ability to:

- use language that is consistent in tenses and pronouns
- understand parallelism, noun agreement, and subject-verb agreement
- understand how to express ideas logically
- avoid ambiguous and vague pronouns, wordiness, improper modification, and sentence fragments
- understand proper coordination and subordination, logical comparison, and modification and word order

You will not be asked to define or use grammatical terms, and spelling and capitalization will not be tested.

Note: Calculators may not be on your desk or be used during the writing section of the SAT.

Approaches to the Multiple-Choice Writing Questions

- Read the directions carefully and then follow them.
- Eliminate the choices you are sure are wrong when you are not sure of the answer. Make an educated guess from the remaining choices.

Improving Sentences

This question type measures your ability to:

- recognize and correct faults in usage and sentence structure
- recognize effective sentences that follow the conventions of standard written English

Directions

The following sentences test correctness and effectiveness of expression. Part of each sentence or the entire sentence is underlined; beneath each sentence are five ways of phrasing the underlined material. Choice A repeats the original phrasing; the other four choices are different. If you think the original phrasing produces a better sentence than any of the alternatives, select choice A; if not, select one of the other choices.

In making your selection, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, sentence construction, and punctuation. Your selection should result in the most effective sentence—clear and precise, without awkwardness or ambiguity.

EXAMPLE:

Laura Ingalls Wilder published her first book and she was sixty-five years old then.

- (A) and she was sixty-five years old then
- (B) when she was sixty-five
- (C) at age sixty-five years old
- (D) upon the reaching of sixty-five years
- (E) at the time when she was sixty-five

A B C D E

Answering Improving Sentences Questions

Look carefully at the underlined portion of the sentence because it may have to be revised. Keep in mind that the rest of the sentence stays the same. Follow the two outlined steps below in answering each Improving Sentences question.

Step 1: Read the entire sentence carefully but quickly and ask yourself whether the underlined portion is correct or whether it needs to be revised.

In the example above, connecting the two ideas (“**Laura Ingalls Wilder published her first book**”) and (“**she was sixty-five years old then**”) with the word “**and**” indicates that the two ideas are equally important. The word “**and**” should be replaced to establish the relationship between the two ideas.

Step 2: Read choices (A) through (E), replacing the underlined part with each answer choice to determine which revision results in a sentence that is clear and precise and meets the requirements of standard written English.

Remember that choice (A) is the same as the underlined portion. Even if you think that the sentence does not require correction and choice (A) is the correct answer, it is a good idea to read each choice quickly to make sure.

- The word “**and**” indicates that the two ideas it connects are equally important. No.
- Replacing the word “**and**” with “**when**” clearly expresses the information that the sentence is intended to convey by relating Laura Ingalls Wilder’s age to her achievement. Yes, but continue to look at the other revisions.
- Using the word “**at**” results in a phrase that is not idiomatic. No.
- The phrase “**upon the reaching of**” also results in a phrase that is not idiomatic. No.
- The phrase “**at the time when she was sixty-five years old**” is awkward and wordy. No.

Correct answer: (B) / **Difficulty level:** Easy

Sample Questions

1. Scenes from the everyday lives of African Americans, which are realistically depicted in the paintings of Henry Ossawa Tanner.

- (A) Scenes from the everyday lives of African Americans, which are realistically depicted in the paintings of Henry Ossawa Tanner.
- (B) Scenes from the everyday lives of African Americans being realistically depicted in the paintings of Henry Ossawa Tanner.
- (C) The paintings of Henry Ossawa Tanner realistically depict scenes from the everyday lives of African Americans.
- (D) Henry Ossawa Tanner, in his realistic paintings, depicting scenes from the everyday lives of African Americans.
- (E) Henry Ossawa Tanner, whose paintings realistically depict scenes from the everyday lives of African Americans.

For a sentence to be grammatically complete, it must include both a subject and a main verb. When a sentence lacks either a subject or a main verb, the result is a *sentence fragment*. In this example all options but (C) are sentence fragments.

- In (A), the phrase “Scenes . . . Americans” is modified by the dependent clause “which . . . Tanner,” but there is no main verb.
- In (B), the phrase “Scenes . . . Tanner” contains no main verb.
- In (D), the noun “Henry Ossawa Tanner” is modified by “depicting” but is not combined with a main verb.
- And in (E), the noun “Henry Ossawa Tanner” is modified by the dependent clause “whose . . . Americans” but not combined with a main verb.
- (C) is correct. It is the only choice in which a subject (“The paintings of Henry Ossawa Tanner”) is combined with a verb (“depict”) to express a complete thought.

Correct answer: (C) / Difficulty level: Medium

2. Looking up from the base of the mountain, the trail seemed more treacherous than it really was.

- (A) Looking up
- (B) While looking up
- (C) By looking up
- (D) Viewing
- (E) Viewed

When a modifying phrase begins a sentence, it must logically modify the sentence’s subject; otherwise, it is a *dangling modifier*. In this example, every option except (E) is a *dangling modifier*.

- In (A), the phrase “Looking up from the base of the mountain” does not logically modify the subject “the trail.” A person might stand at the base of

a mountain and look up at a trail, but it is illogical to suggest that a trail looks up from the base of a mountain.

- (B), (C), and (D) are simply variations of the error found in (A). Each results in a sentence that illogically suggests that a trail was looking up from the base of a mountain.
- (E) is correct. Although a trail cannot itself look up from the base of a mountain, a trail can be viewed by someone looking up from the base of a mountain, so the phrase “Viewed from the base of the mountain” logically modifies the subject “the trail.”

Correct answer: (E) / Difficulty level: Hard

Identifying Sentence Errors

This question type measures your ability to:

- recognize faults in grammar and usage
- recognize effective sentences that follow the conventions of standard written English

Directions

The following sentences test your ability to recognize grammar and usage errors. Each sentence contains either a single error or no error at all. No sentence contains more than one error. The error, if there is one, is underlined and lettered. If the sentence contains an error, select the one underlined part that must be changed to make the sentence correct. If the sentence is correct, select choice E.

In choosing answers, follow the requirements of standard written English.

EXAMPLE:

The other delegates and him immediately

A B C
accepted the resolution drafted by the

D

neutral states. No error

E

(A) ● (C) (D) (E)

Answering Identifying Sentence Errors Questions

Ask yourself if any of the underlined words and phrases in the sentence contains a grammar or usage error. Follow the two outlined steps in answering each Identifying Sentence Errors question.

Step 1: Read the entire sentence carefully but quickly, paying attention to underlined choices (A) through (D).

In the example above, “**The other delegates and him**” are the people who “**immediately accepted the resolution,**”

and the phrase “**drafted by the neutral states**” describes “**the resolution.**” Check each underlined word or phrase for correctness.

- The phrase “**The other**” correctly modifies the word “**delegates.**”
- The pronoun “**him**” is in the wrong case. (One would not say “**him**” immediately accepted.”) “**Him**” is an error, but go on to check the other choices, especially if you are not sure.
- The word “**immediately,**” which modifies the verb “**accepted,**” is correct.
- The phrase “**drafted by**” correctly expresses the action of the “**neutral states.**”

Step 2: Select the underlined word or phrase that needs to be changed to make the sentence correct.

- Mark (E) **No error** if you believe that the sentence is correct as written. Mark (B) on your answer sheet because the underlined word “**him**” must be changed to “**he**” to make the sentence correct.

Correct answer: (B) / **Difficulty level:** Easy

Keep in mind that some sentences do not contain an error.

Sample Questions

3. The students have discovered that they can address
A B
issues more effectively through letter-writing
C
campaigns and not through public
D
demonstrations. No error
E

- The error in this sentence occurs at (D). When a comparison is introduced by the adverb “more,” as in “**more effectively,**” the second part of the comparison must be introduced by the conjunction “**than**” rather than “**and not.**”
- The other options contain no errors. In (A), the plural verb “**have discovered**” agrees with the plural subject “**students.**” In (B), the plural pronoun “**they**” correctly refers to the plural noun “**students.**” In (C), the preposition “**through**” appropriately expresses the means by which issues are addressed.
- The sentence may be corrected as follows: The students have discovered that they can address issues more effectively through letter-writing campaigns *than* through public demonstrations.

Correct answer: (D) / **Difficulty level:** Easy

4. After hours of futile debate, the committee has
A
decided to postpone further discussion
B
of the resolution until their next meeting.
C D
No error
E

- The error in this sentence occurs at (D). A pronoun must agree in number (singular or plural) with the noun to which it refers. Here, the plural pronoun “**their**” incorrectly refers to the singular noun “**committee.**”
- The other options contain no errors. In (A), the preposition “**After**” appropriately introduces a phrase that indicates when the committee made its decision. In (B), “**to postpone**” is the verb form needed to complete the description of the committee’s decision. In (C), the prepositional phrase “**of the resolution**” appropriately specifies the subject of the postponed discussion.
- The sentence may be corrected as follows: After hours of futile debate, the committee has decided to postpone further discussion of the resolution until its next meeting.

Correct answer: (D) / **Difficulty level:** Medium

Improving Paragraphs

This type of question measures your ability to:

- edit and revise sentences in the context of a paragraph or entire essay
- organize and develop paragraphs in a coherent and logical manner
- apply the conventions of standard written English

Directions

Directions: The following passage is an early draft of an essay. Some parts of the passage need to be rewritten.

Read the passage and select the best answers for the questions that follow. Some questions are about particular sentences or parts of sentences and ask you to improve sentence structure or word choice. Other questions ask you to consider organization and development. In choosing answers, follow the requirements of standard written English.

Answering Improving Paragraphs Questions

To answer the Improving Paragraphs questions that accompany the draft essay, you will need to note what sentences need to be corrected and to know how each of the sentences relate to one another and to the essay as a whole. Follow the outlined steps to answer the questions.

Step 1: Read the entire essay quickly to determine its overall meaning. The essay is intended as a draft, so you will notice errors.

Step 2: In answering each question, make sure that your answer about a particular sentence or group of sentences makes sense in the context of the passage as a whole. Choose the best answer from among the choices given, even if you can imagine another correct response.

Sample Questions

Questions 5–7 are based on the following passage:

(1) Many times art history courses focus on the great “masters,” ignoring those women who should have achieved fame. (2) Often women artists like Mary Cassatt have worked in the shadows of their male contemporaries. (3) They have rarely received much attention during their lifetimes.

(4) My art teacher has tried to make up for it by teaching us about women artists and their work. (5) Recently she came to class very excited; she had just read about a little-known artist named Annie Johnson, a high school teacher who had lived all of her life in New Haven, Connecticut. (6) Johnson never sold a painting, and her obituary in 1937 did not even mention her many paintings. (7) Thanks to Bruce Blanchard, a Connecticut businessman who bought some of her watercolors at an estate sale.

(8) Johnson is finally starting to get the attention that she deserved more than one hundred years ago. (9) Blanchard now owns a private collection of hundreds of Johnson’s works—watercolors, charcoal sketches, and pen-and-ink drawings.

(10) There are portraits and there are landscapes. (11) The thing that makes her work stand out are the portraits. (12) My teacher described them as “unsentimental.”

(13) They do not idealize characters.

(14) Characters are presented almost photographically. (15) Many of the people in the pictures had an isolated, haunted look.

(16) My teacher said that isolation symbolizes Johnson’s life as an artist.

5. In context, which is the best revision to the underlined portion of sentence 3 (reproduced below)?

They have rarely received much attention during their lifetimes.

- (A) In fact, they had
- (B) Too bad these artists have
- (C) As a result, these women have
- (D) In spite of this, women artists
- (E) Often it is the case that the former have

Although sentence 3 is not grammatically wrong, its relationship to the preceding sentence needs to be made clearer. A transitional phrase should be added to emphasize the cause-and-effect relationship between the stated facts—women artists received little attention *as a consequence* of having worked in the shadows of their male contemporaries—and the ambiguous pronoun “**They**” should be replaced with a word or phrase that clearly refers to the

“women artists” and not the “male contemporaries” mentioned in sentence 2.

- (A), (B), and (D) are unsatisfactory because in each case the transitional phrase (“**In fact**,” “**Too bad**,” or “**In spite of this**”) fails to indicate the cause-and-effect relationship. Moreover, both (A) and (B) leave the ambiguity of the pronoun unresolved.
- (E) is unsatisfactory not only because it fails to signal the cause-and-effect relationship but also because it is wordy and illogically combines the adverbs “**Often**” and “**rarely**.”
- (C) is correct. The transitional phrase “**as a result**” clearly indicates a cause-and-effect relationship, and “**these women**” properly resolves the ambiguity of the pronoun “**They**.”

Correct answer: (C) / Difficulty level: Hard

6. In context, which of the following revisions to sentence 7 is most needed?

- (A) Delete “Thanks to”.
- (B) Move “Thanks to Bruce Blanchard” to the end of sentence 7.
- (C) Delete “who”.
- (D) Change “her” to “Johnson’s”.
- (E) Change the period to a comma and combine sentence 7 with sentence 8.

Sentence 7 is a sentence fragment, with neither a subject nor a main verb to finish the thought it has begun. It says “**Thanks to Bruce Blanchard**,” but it does not say *what happened* thanks to Bruce Blanchard. It should therefore be joined to an independent clause, complete with subject and verb, that indicates what happened as a result of Blanchard’s action.

- (A), (B), and (D) are unsatisfactory because each fails to provide the main verb needed to complete the sentence. Each results in another sentence fragment.
- Although (C) results in a complete sentence, the sentence makes little sense in the context of the paragraph because it suggests that Bruce Blanchard is someone other than the Connecticut businessman who bought the watercolors.
- (E) is correct. This change results in a grammatically complete sentence that indicates what happened thanks to Bruce Blanchard’s efforts: Johnson began to get the attention she deserved.

Correct answer: (E) / Difficulty level: Medium

7. In context, which of the following is the best version of sentence 10 (reproduced below)?

There are portraits and there are landscapes.

- (A) (As it is now)
- (B) You can see both portraits and landscapes.
- (C) Therefore, both portraits and landscapes are among her works.
- (D) Johnson painted both portraits and landscapes.
- (E) Among them Johnson has portraits and landscapes.

In addition to being vague, sentence 10 contains no noun to which the pronoun “her” in sentence 11 may refer. It should be revised so that Johnson is clearly identified as the painter of the portraits and landscapes.

- (A), (B), and (C) are unsatisfactory because each omits any mention of Johnson.
- Though (E) does mention Johnson, it is misleading in that the words “**Johnson has**” suggest that Johnson is the owner rather than the painter of the portraits and landscapes.
- (D) is correct because it properly identifies Johnson as the painter of the artworks and thus provides an antecedent for the pronoun “her” in sentence 11.

Correct answer: (D) / Difficulty level: Easy

The Essay

The essay will measure your ability to:

- develop a point of view on an issue presented in an excerpt
- use reasoning and evidence based on reading, studies, experience, and observations to support that point of view
- follow the conventions of standard written English

Approach to the Essay

- Read the prompt carefully and make sure you write on the topic given. Essays not on topic will receive a zero.
- Decide your viewpoint on the topic. If you have trouble focusing on the main point, try completing this sentence: “When people finish reading my essay, I want them to understand that....” The words you use to fill in that blank might well become part of your thesis statement.
- Spend five minutes on planning. Use your test booklet to create a quick outline. Begin with the thesis from the approach above. You have only twenty-five minutes to write your essay, so don't spend too much time outlining. A little planning time, however, may be essential to make sure that your essay does not wander off topic or stray from your focused thesis statement.
- Vary the sentence structure in your writing. Good writing uses a variety of sentence types to make the writing more interesting while showing the relationships between ideas. To give your prose a mature character, vary the sentence structure that communicates how your ideas are related to each other.
- Use clear, precise, and appropriate vocabulary. Appropriate words are accurate and specific, not necessarily long and obscure.
- Leave time to review what you've written. Although you won't have time for full-scale revision, do leave a few minutes for rereading your essay and making minor changes in the wording or even in the structure of what you have written.

Directions

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned below. **DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.**

Think carefully about the issue presented in the following excerpt and the assignment below.

Prompt:

A sense of happiness and fulfillment, not personal gain, is the best motivation and reward for one's achievements. Expecting a reward of wealth or recognition for achieving a goal can lead to disappointment and frustration. If we want to be happy in what we do in life, we should not seek achievement for the sake of winning wealth and fame. The personal satisfaction of a job well done is its own reward.

Assignment: Are people motivated to achieve by personal satisfaction rather than by money or fame? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.



To receive an automated score for your response to this essay question, check out The Official SAT Online Course at www.collegeboard.com/satonlinecourse.

Sample Essays

Essays are scored by experienced high school teachers and college faculty members who primarily teach English, composition, or language arts courses, or who teach a course in another subject that requires a substantial amount of writing.

Each essay will be scored independently by two qualified readers on a scale of 1 to 6, with 6 being the highest score. The combined score for both readers will range from 2 to 12. If the two readers' scores are more than one point apart, a third reader resolves the discrepancy.

Essay #1: This essay received a score of 6

Even though we live in a capitalist society, I still cannot help but believe, despite my own cynicism, that people are more motivated to achieve something for personal satisfaction rather than monetary gains. Look at Chekov's short story, "The Bet." A man agrees to sacrifice fifteen years of his life in prison in exchange for a million dollars. Obviously his motivation for such an extreme bet is wealth, but by the end of the prison sentence, the man could care less about the money. After years of introspection, of reading Shakespeare, The Bible, and textbooks, the man actually comes to despise the money he once sought; the money he signed away fifteen years of his life for. He does not collect his money from the banker, he runs away to be on his own and continue to live the life of solitude he has learned to love, free of money and possessions.

Also, in a psychology class, one of the first things students study when they come to the topic of motivation, is external stimulus versus personal drive. Any textbook will tell one that studies show that a child is more likely to put as much energy as possible into completing a task when it is something that makes him happy, than if he was doing it for a physical reward. A child is more likely to get good grades, if it makes him feel good about himself, than if his parents offer to pay him every time he makes the honor roll. I agree with this theory on motivation because I see it play out everyday in my life. If my older sister had been concerned with money and fame, which reality television tells us every night is important, she would have gone to college after graduating high school. She knew though, that school and learning did not make her happy, and she was not going to suffer through four more years of school just because a college degree could lead to a more successful job. Right now she does not make as much money at her job, but she likes her life and the way she lives; she has more fun answering phones and dealing with other people at work than she would behind a desk in a classroom. This past year I myself have been forced to look at my priorities as well. I have worked hard in school all my life and have made honor roll semester after semester, because I enjoy it. I have not filled up my schedule with classes I did not want because calculus and economics look good on a college transcript. I had a high enough GPA to join the National Honor Society, but I chose not to join because even though it might have impressed some admissions officers, it was not something that was going to make me happy. Instead I spend my time studying Creative Writing, Art History, and the other subjects I feel truly passionate about.

There is a pleasure principle in psychology, which basically means that one will do whatever will make them most happy or least unhappy. I think that is true, and I feel that the happiness most people seek out is not about money or luxury. Maybe it looks like that from the media, because advertising says that people want to be like Donald Trump, but that is not real life. Real life is my next door neighbor who gardens as a second job for small fees because he loves to be outside, working with his hands in the nice weather. I am sure no one would mind winning the lottery, but to say that it is our primary motivator in life is sad and untrue. A person who is happy and making minimum wage is likely

to live longer than someone who spends his or her life working sixty four hour weeks at a stressful job to make money hand over fist. Are some people very driven by money? Yes. Is that more important than the personal satisfaction that comes from doing something good? Literature, psychology, and our personal lives tell us no, and I hope it stays that way.

Why Essay #1 Received a Score of 6

This outstanding essay insightfully and effectively develops the point of view that, "Even though we live in a capitalist society, I still cannot help but believe... that people are more motivated to achieve something for personal satisfaction rather than monetary gains." The writer demonstrates outstanding critical thinking by focusing on clearly appropriate examples from "Literature, psychology, and our personal lives" to support this position. The essay begins by describing Chekhov's "The Bet" as a short story that, through its main character's changed priorities after "years of introspection" in prison, ultimately places higher value on a "life of solitude... free of money and possessions" than on wealth. The writer continues to demonstrate outstanding critical thinking by offering as evidence the psychological principle of "external stimulus versus personal drive" and several examples of how this principle has been borne out in a sister's and the writer's own lives. The essay concludes by once again drawing on psychology, this time the concept of the "pleasure principle," to reinforce the idea that "the happiness most people seek out is not about money or luxury" but lies in "the personal satisfaction that comes from doing something good." This well organized and clearly focused essay demonstrates coherence and progression of ideas. The essay consistently exhibits skillful use of language and demonstrates meaningful variety in sentence structure ("After years of introspection, of reading Shakespeare, The Bible, and textbooks, the man actually comes to despise the money he once sought; the money he signed away fifteen years of his life for"). Thus, this essay demonstrates clear and consistent mastery and receives a score of 6.

Essay#2: This essay received a score of 5

I believe that personal satisfaction, through giving, and providing your best effort, has a greater and more rewarding outcome over gaining wealth or fame. This is evident through many public examples of people who are known to our society as "celebrities" stooping to a standard of drug reliance and materialism. It seems to me that people who have achieved the money and achieved the fame are never quite satisfied with themselves or the situations they are in. Although many people are based on financial stature, there are also many groups or individuals that are based on goals more helpful to our society as a whole.

People who are involved in organizations such as the make-a-wish foundation and Habitat for Humanity are working towards a common goal of giving others opportunities, and chances they wouldn't normally have. These foundations are non-profit, and work with and around our communities to help advance and improve the lives of others. People who do these projects and strive for the betterment

of others are not doing it for themselves, for the money, or for the recognition. They are doing it whole heartedly without complaint.

To me, people who don't think of what benefits or rewards they will reap are truly the ones obtaining the most righteous self-achievement. Through their actions and beliefs, I undoubtedly believe that these people are gaining the happiness and fulfillment that even the richest or most famous people wish they had. When you go into a project or any type of action not expecting anything back, the things you do will be paid back to you ten-fold in the grand scheme of things. Doing that action, or job, or project, whatever it may be, to the best of your ability will give you a sense of accomplishment like no other because of the amount of effort and giving you put forth. It is too bad people or groups like this aren't recognized as much as a person who wins a game show or is in a movie.

Why Essay #2 Received a Score of 5

This focused essay demonstrates strong critical thinking and effectively develops its point of view (“I believe that personal satisfaction, through giving, and providing your best effort, has a greater and more rewarding outcome over gaining wealth or fame”) by offering a well organized progression of ideas detailing the motivations of and benefits for groups such as “the make-a-wish foundation and Habitat for Humanity,” who “help advance and improve the lives of others.” Additional focus is provided at the essay's opening and closing by comparing these groups to “many public examples of... ‘celebrities’ stooping to a standard of drug reliance and materialism” because they “are never quite satisfied with themselves or the situation they are in.” The response also exhibits facility in the use of language and variety in sentence structure (“People who do these projects and strive for the betterment of others are not doing it for themselves, for the money, or for the recognition. They are doing it whole heartedly without complaint”). Some lapses in the specificity of support prevent the response from earning a higher score. Therefore, to merit a score of 6, this essay needs to provide additional detailed evidence to more evenly and insightfully develop the point of view. Overall, this response exhibits reasonably consistent mastery and receives a score of 5.

Essay #3: This essay received a score of 4

Some people in the world today feel that they need to achieve a goal in order to receive fame and money. While others achieve a goal for their own satisfaction. I personally feel that you should achieve a goal for your own satisfaction and not for that of fame.

The most important thing about someone's life is to have a positive self-esteem. People need to not worry so much about what others think and just need to start concentrating on doing everything for themselves. Within my life I set a lot of goals from which I hope to achieve. One major goal is that of trying to drop my fifty meter freestyle time to twenty-five seconds. I work day in and day out on this and want to show myself I can do it. I don't care what others think about my goals. I want to do this for myself and not for fame or money.

A person should not feel the need for fame or money because if they achieve a lifetime goal they should just be happy with themselves. Think about it I mean, how long does money last? Is fame really worth anything? I don't think so. I mean, I know it would be nice to be recognized for doing something special or extraordinary but truthfully it won't help you. Fame may make your day or make you smile for a couple of days but when you really think about it, it won't make you happy for the rest of your life. Yet, if you do something for yourself and keep doing things for yourself you should always be happy with yourself.

Remember fame and money don't last forever but one's own happiness can last a lifetime and eternity. Therefore it is very obvious that the choice that should be made when trying to find motivation for a goal would be that of personal satisfaction rather than that of fame or money.

Why Essay #3 Received a Score of 4

This essay develops the point of view that “you should achieve a goal for your own satisfaction and not for that of fame.” The writer demonstrates competent critical thinking by presenting adequate evidence in a manner that demonstrates some progression of ideas from the short-term gain of “positive self-esteem,” supported by a specific example from the writer's life (“One major goal is that of trying to drop my fifty meter freestyle time”), to the less specifically supported attainment of a “lifetime goal” with greater lasting value than money or fame. Facility in the use of language is evident (“Fame may make your day or make you smile for a couple of days but when you really think about it, it won't make you happy for the rest of your life”) but inconsistent (“Yet, if you do something for yourself and keep doing things for yourself you should always be happy with yourself”). The essay exhibits some variety in sentence structure (“A person should not feel the need for fame or money because if they achieve a lifetime goal they should just be happy with themselves. Think about it I mean how long does money last? Is fame really worth anything?”). To merit a higher score, the essay needs to develop the point of view more insightfully and evenly by providing further detailed evidence as support. This essay demonstrates adequate mastery and receives a score of 4.

Essay #4: This essay received a score of 3

Money and fame are nice but if you aren't satisfied with your personal goals and achievement, then the money and fame don't matter. Material things do not matter in the gist of life. People who are rich in one century are forgotten in the next. Mother Teresa accomplished more in a few years than most people do in a lifetime, even though she was not wealthy. If you are passionate for a cause, then the money and fame do not matter. Who remembers who the richest person in the world was in 1792? No one. However, I will always remember that in 1921, Susan B. Anthony fought for the right for a woman to vote. She was not a wealthy woman but had enough passion about her cause that the rewards did not matter more than the accomplishment of her purpose.

Why Essay #4 Received a Score of 3

This essay demonstrates developing mastery and some critical thinking by attempting to support the position that “Money and fame are nice but if you aren’t satisfied with your personal goals and achievement, then the money and fame don’t matter.” The writer limits focus to a central reason, “People who are rich in one century are forgotten in the next,” and supports this reason using two examples that are specific, though undeveloped and therefore inadequate (“Mother Teresa accomplished more in a few years than most people do in a lifetime.... I will always remember that in 1921, Susan B. Anthony fought for the right for a woman to vote”). Although the writer demonstrates developing facility in the use of language (“Who remembers who the richest person in the world was in 1792? No one. However, I will always remember that in 1921, Susan B. Anthony fought for the right for a woman to vote”), vocabulary is sometimes weak and repetitive (“then the money and fame don’t matter...then the money and fame do not matter...that the rewards did not matter”). To merit a higher score, this essay needs to exhibit stronger critical thinking by providing further focused and detailed evidence to develop the point of view more effectively. Overall, this essay remains in the inadequate category, earning a score of 3.

Essay #5: This essay received a score of 2

I have several ideas why it is personal satisfaction and not money or fame that urges people to succeed. My belief is after you succeed in something you do you feel good about yourself, you feel as you just successfully competed your mission that you made for yourself and it makes you feel good inside for example after an actor wins an academy award I think he does not think about money or fame but instead he or she feels as she is great at her job and it makes that person complete and happy inside. Another example are authors who usually never get famous or wealthy when they are alive but its rather the personal feeling of fulfillment of happiness that inspires them to write great stories. Those are several reasons why I think its personal feeling and satisfaction and not fame and fortune that inspires people to succeed.

Why Essay #5 Received a Score of 2

This essay offers a seriously limited point of view (“its personal feeling and satisfaction and not fame and fortune that inspires people to succeed”) and demonstrates some critical thinking by supporting this position with several brief examples (“after an actor wins an academy award...authors who usually never get famous or wealthy”) of situations in which “after you succeed in something you do you feel good about yourself.” However, this evidence consists of general statements that are insufficient to support the writer’s position (“I think he does not think about money or fame but instead he or she feels as she is great at her job and it makes that person complete and happy inside”). The response displays very little facility with language due to limited and repetitive vocabulary (“you feel good about yourself...you feel good inside...”). Consequently, to receive a higher score, this essay needs to exhibit more skillful facility in the use of

language as well as demonstrate stronger critical thinking by providing additional focused and specific evidence that will adequately develop the point of view. This response demonstrates little mastery and remains at the 2 score point.

Essay #6: This essay received a score of 1

My view of the idea that it is personal satisfaction rather than money or fame that motivates people to achieve is sometimes wrong because in sports some people do it for personal satisfaction because they love the game and some people do it for the money because it pays well. For example, in the NFL there are two types of people, one plays for the check and the other plays for the ring.

Why Essay #6 received a Score of 1

Offering little evidence to support the writer’s point of view (“My view of the idea that it is personal satisfaction rather than money or fame that motivates people to achieve is sometimes wrong”), this response is fundamentally lacking. The sparse supporting evidence provided is weak (“in sports some people do it for personal satisfaction because they love the game and some people do it for the money”) and repetitive (“For example, in the NFL there are two types of people, one plays for the check and the other plays for the ring”). The essay consists of only two sentences, and one of these sentences displays flawed structure (“My view of the idea that it is personal satisfaction rather than money or fame that motivates people to achieve is sometimes wrong because in sports some people do it for personal satisfaction because they love the game and some people do it for the money because it pays well”). To merit a higher score, this essay needs to exhibit more control over sentence structure as well as demonstrate stronger critical thinking by providing further focused and detailed evidence to adequately develop the point of view. Overall, this essay demonstrates very little mastery and is scored a 1.



To see additional sample essays, visit the SAT Preparation Center at www.collegeboard.com/srp.

Scoring the Essay

Essays will be scored in a manner that is fair and consistent, using a holistic approach. In holistic scoring, a piece of writing is considered as a total work, the whole of which is greater than the sum of its parts. Even with some errors in spelling, punctuation, and grammar, a student can get a top score on the essay.

The highly trained high school and college teachers who score the essays will follow the scoring guide below that focuses on content, organization, language usage, and sentence structure. The scoring guide illustrates the importance of directly relevant responses that cannot be coached or memorized ahead of test time. The new SAT essay will neither reward nor punish formulaic approaches to writing, such as the five-paragraph essay. Readers will be trained to recognize and reward a wide variety of essays at each score point.

SAT SCORING GUIDE

SCORE OF 6

An essay in this category is *outstanding*, demonstrating *clear and consistent mastery*, although it may have a few minor errors. A typical essay:

- effectively and insightfully develops a point of view on the issue and demonstrates outstanding critical thinking, using clearly appropriate examples, reasons, and other evidence to support its position
- is well organized and clearly focused, demonstrating clear coherence and smooth progression of ideas
- exhibits skillful use of language, using a varied, accurate, and apt vocabulary
- demonstrates meaningful variety in sentence structure
- is free of most errors in grammar, usage, and mechanics

SCORE OF 3

An essay in this category is *inadequate*, but demonstrates *developing mastery*, and is marked by ONE OR MORE of the following weaknesses:

- develops a point of view on the issue, demonstrating some critical thinking, but may do so inconsistently or use inadequate examples, reasons, or other evidence to support its position
- is limited in its organization or focus, or may demonstrate some lapses in coherence or progression of ideas
- displays developing facility in the use of language, but sometimes uses weak vocabulary or inappropriate word choice
- lacks variety or demonstrates problems in sentence structure
- contains an accumulation of errors in grammar, usage, and mechanics

SCORE OF 5

An essay in this category is *effective*, demonstrating *reasonably consistent mastery*, although it will have occasional errors or lapses in quality. A typical essay:

- effectively develops a point of view on the issue and demonstrates strong critical thinking, generally using appropriate examples, reasons, and other evidence to support its position
- is well organized and focused, demonstrating coherence and progression of ideas
- exhibits facility in the use of language, using appropriate vocabulary
- demonstrates variety in sentence structure
- is generally free of most errors in grammar, usage, and mechanics

SCORE OF 2

An essay in this category is *seriously limited*, demonstrating *little mastery*, and is flawed by ONE OR MORE of the following weaknesses:

- develops a point of view on the issue that is vague or seriously limited, and demonstrates weak critical thinking, providing inappropriate or insufficient examples, reasons, or other evidence to support its position
- is poorly organized and/or focused, or demonstrates serious problems with coherence or progression of ideas
- displays very little facility in the use of language, using very limited vocabulary or incorrect word choice
- demonstrates frequent problems in sentence structure
- contains errors in grammar, usage, and mechanics so serious that meaning is somewhat obscured

SCORE OF 4

An essay in this category is *competent*, demonstrating *adequate mastery*, although it will have lapses in quality. A typical essay:

- develops a point of view on the issue and demonstrates competent critical thinking, using adequate examples, reasons, and other evidence to support its position
- is generally organized and focused, demonstrating some coherence and progression of ideas
- exhibits adequate but inconsistent facility in the use of language, using generally appropriate vocabulary
- demonstrates some variety in sentence structure
- has some errors in grammar, usage, and mechanics

SCORE OF 1

An essay in this category is *fundamentally lacking*, demonstrating *very little or no mastery*, and is severely flawed by ONE OR MORE of the following weaknesses:

- develops no viable point of view on the issue, or provides little or no evidence to support its position
- is disorganized or unfocused, resulting in a disjointed or incoherent essay
- displays fundamental errors in vocabulary
- demonstrates severe flaws in sentence structure
- contains pervasive errors in grammar, usage, or mechanics that persistently interfere with meaning

Essays not written on the essay assignment will receive a score of zero.

Practice SAT

About the Practice Test

Take the practice test, which starts on page 45, to reinforce your test-taking skills and to be more comfortable when you take the SAT. This practice test will give you a good idea of what to expect on the actual test. However, the test you eventually take will differ in some ways. It may, for example, contain a different number of reading passages, and its sections may be in a different order.

Also, this practice SAT includes only nine of the ten sections that the actual test contains. **Section 3 is an unscored section and has been omitted on this test because it contains questions that may be used in future editions of the SAT.**

The practice test will help you most if you take it under conditions as close as possible to those of the actual test.

Finding Your Scores

Your raw test scores are placed on the College Board scale of 200 to 800. Use the table on page 85 to find the scaled scores that correspond to your raw scores on this edition of the SAT. The essay will be scored on a scale of 1 to 6, and reported on a scale of 2 to 12. Use the Essay Scoring Guide on page 35 to determine how your particular essay might be scored. You can double the score to get an approximate essay score.

Reviewing Your Performance

After you score your practice test, analyze your performance. Asking yourself these questions and following the suggestions can help you improve your scores:

- **Did you run out of time before you finished a section?** Try to pace yourself so you will have time to answer all the questions you can. Don't spend too much time on any one question.
- **Did you hurry and make careless mistakes?** You may have misread the question, neglected to notice the word "except" or "best," or solved for the wrong value.
- **Did you spend too much time reading directions?** You should be familiar with the test directions so you don't have to spend as much time reading them when you take the actual test.

Approaches to the Practice Test

- Set aside 3 hours and 20 minutes of uninterrupted time. That way you can complete the entire test in one sitting. **Note: the total testing time is 3 hours and 45 minutes, but you save 25 minutes because the unscored section from this practice test was omitted.**
- Sit at a desk or table cleared of any other papers or books. You won't be able to take a dictionary, books, notes, or scratch paper into the test room.
- Allow yourself the specified amount of time for each section. Pace yourself by using a watch (without an audible alarm), which is what you are allowed on test day.
- Have a calculator at hand when you take the math sections. This will help you determine how much to use a calculator the day of the test. Use a calculator with which you are familiar.
- Read the test instructions carefully. They are reprinted from the back cover of the test book. On test day, you will be asked to read them before you begin answering questions.
- After you finish the test, read page 84.



You can enter your answers to the practice test and receive a scores and skills report, as well as explanations for the questions on the test.

You can also receive an automated essay score for your response to the essay question, and view sample essays with explanations. Check out The Official SAT Online Course at www.collegeboard.com/satonlinecourse.

Start with number 1 for each new section. If a section has fewer questions than answer spaces, leave the extra answer spaces blank. Be sure to erase any errors or stray marks completely.

**SECTION
2**

- | | | | |
|------------------------|------------------------|------------------------|------------------------|
| 1 (A) (B) (C) (D) (E) | 11 (A) (B) (C) (D) (E) | 21 (A) (B) (C) (D) (E) | 31 (A) (B) (C) (D) (E) |
| 2 (A) (B) (C) (D) (E) | 12 (A) (B) (C) (D) (E) | 22 (A) (B) (C) (D) (E) | 32 (A) (B) (C) (D) (E) |
| 3 (A) (B) (C) (D) (E) | 13 (A) (B) (C) (D) (E) | 23 (A) (B) (C) (D) (E) | 33 (A) (B) (C) (D) (E) |
| 4 (A) (B) (C) (D) (E) | 14 (A) (B) (C) (D) (E) | 24 (A) (B) (C) (D) (E) | 34 (A) (B) (C) (D) (E) |
| 5 (A) (B) (C) (D) (E) | 15 (A) (B) (C) (D) (E) | 25 (A) (B) (C) (D) (E) | 35 (A) (B) (C) (D) (E) |
| 6 (A) (B) (C) (D) (E) | 16 (A) (B) (C) (D) (E) | 26 (A) (B) (C) (D) (E) | 36 (A) (B) (C) (D) (E) |
| 7 (A) (B) (C) (D) (E) | 17 (A) (B) (C) (D) (E) | 27 (A) (B) (C) (D) (E) | 37 (A) (B) (C) (D) (E) |
| 8 (A) (B) (C) (D) (E) | 18 (A) (B) (C) (D) (E) | 28 (A) (B) (C) (D) (E) | 38 (A) (B) (C) (D) (E) |
| 9 (A) (B) (C) (D) (E) | 19 (A) (B) (C) (D) (E) | 29 (A) (B) (C) (D) (E) | 39 (A) (B) (C) (D) (E) |
| 10 (A) (B) (C) (D) (E) | 20 (A) (B) (C) (D) (E) | 30 (A) (B) (C) (D) (E) | 40 (A) (B) (C) (D) (E) |

**SECTION
3**

- | | | | |
|------------------------|------------------------|------------------------|------------------------|
| 1 (A) (B) (C) (D) (E) | 11 (A) (B) (C) (D) (E) | 21 (A) (B) (C) (D) (E) | 31 (A) (B) (C) (D) (E) |
| 2 (A) (B) (C) (D) (E) | 12 (A) (B) (C) (D) (E) | 22 (A) (B) (C) (D) (E) | 32 (A) (B) (C) (D) (E) |
| 3 (A) (B) (C) (D) (E) | 13 (A) (B) (C) (D) (E) | 23 (A) (B) (C) (D) (E) | 33 (A) (B) (C) (D) (E) |
| 4 (A) (B) (C) (D) (E) | 14 (A) (B) (C) (D) (E) | 24 (A) (B) (C) (D) (E) | 34 (A) (B) (C) (D) (E) |
| 5 (A) (B) (C) (D) (E) | 15 (A) (B) (C) (D) (E) | 25 (A) (B) (C) (D) (E) | 35 (A) (B) (C) (D) (E) |
| 6 (A) (B) (C) (D) (E) | 16 (A) (B) (C) (D) (E) | 26 (A) (B) (C) (D) (E) | 36 (A) (B) (C) (D) (E) |
| 7 (A) (B) (C) (D) (E) | 17 (A) (B) (C) (D) (E) | 27 (A) (B) (C) (D) (E) | 37 (A) (B) (C) (D) (E) |
| 8 (A) (B) (C) (D) (E) | 18 (A) (B) (C) (D) (E) | 28 (A) (B) (C) (D) (E) | 38 (A) (B) (C) (D) (E) |
| 9 (A) (B) (C) (D) (E) | 19 (A) (B) (C) (D) (E) | 29 (A) (B) (C) (D) (E) | 39 (A) (B) (C) (D) (E) |
| 10 (A) (B) (C) (D) (E) | 20 (A) (B) (C) (D) (E) | 30 (A) (B) (C) (D) (E) | 40 (A) (B) (C) (D) (E) |

Section 3, the equating section of this practice test, has been omitted.

CAUTION

Use the answer spaces in the grids below for Section 2 or Section 3 only if you are told to do so in your test book.

Student-Produced Responses

ONLY ANSWERS ENTERED IN THE CIRCLES IN EACH GRID WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES ABOVE THE CIRCLES.

9	10	11	12	13
14	15	16	17	18

Start with number 1 for each new section. If a section has fewer questions than answer spaces, leave the extra answer spaces blank. Be sure to erase any errors or stray marks completely.

**SECTION
4**

- | | | | | | | | |
|----|-----------|----|-----------|----|-----------|----|-----------|
| 1 | A B C D E | 11 | A B C D E | 21 | A B C D E | 31 | A B C D E |
| 2 | A B C D E | 12 | A B C D E | 22 | A B C D E | 32 | A B C D E |
| 3 | A B C D E | 13 | A B C D E | 23 | A B C D E | 33 | A B C D E |
| 4 | A B C D E | 14 | A B C D E | 24 | A B C D E | 34 | A B C D E |
| 5 | A B C D E | 15 | A B C D E | 25 | A B C D E | 35 | A B C D E |
| 6 | A B C D E | 16 | A B C D E | 26 | A B C D E | 36 | A B C D E |
| 7 | A B C D E | 17 | A B C D E | 27 | A B C D E | 37 | A B C D E |
| 8 | A B C D E | 18 | A B C D E | 28 | A B C D E | 38 | A B C D E |
| 9 | A B C D E | 19 | A B C D E | 29 | A B C D E | 39 | A B C D E |
| 10 | A B C D E | 20 | A B C D E | 30 | A B C D E | 40 | A B C D E |

**SECTION
5**

- | | | | | | | | |
|----|-----------|----|-----------|----|-----------|----|-----------|
| 1 | A B C D E | 11 | A B C D E | 21 | A B C D E | 31 | A B C D E |
| 2 | A B C D E | 12 | A B C D E | 22 | A B C D E | 32 | A B C D E |
| 3 | A B C D E | 13 | A B C D E | 23 | A B C D E | 33 | A B C D E |
| 4 | A B C D E | 14 | A B C D E | 24 | A B C D E | 34 | A B C D E |
| 5 | A B C D E | 15 | A B C D E | 25 | A B C D E | 35 | A B C D E |
| 6 | A B C D E | 16 | A B C D E | 26 | A B C D E | 36 | A B C D E |
| 7 | A B C D E | 17 | A B C D E | 27 | A B C D E | 37 | A B C D E |
| 8 | A B C D E | 18 | A B C D E | 28 | A B C D E | 38 | A B C D E |
| 9 | A B C D E | 19 | A B C D E | 29 | A B C D E | 39 | A B C D E |
| 10 | A B C D E | 20 | A B C D E | 30 | A B C D E | 40 | A B C D E |

CAUTION

Use the answer spaces in the grids below for Section 4 or Section 5 only if you are told to do so in your test book.

Student-Produced Responses

ONLY ANSWERS ENTERED IN THE CIRCLES IN EACH GRID WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES ABOVE THE CIRCLES.

9		10		11		12		13	
14		15		16		17		18	

Start with number 1 for each new section. If a section has fewer questions than answer spaces, leave the extra answer spaces blank. Be sure to erase any errors or stray marks completely.

SECTION

8

- | | | | | | | | |
|----|---------------------|----|---------------------|----|---------------------|----|---------------------|
| 1 | (A) (B) (C) (D) (E) | 11 | (A) (B) (C) (D) (E) | 21 | (A) (B) (C) (D) (E) | 31 | (A) (B) (C) (D) (E) |
| 2 | (A) (B) (C) (D) (E) | 12 | (A) (B) (C) (D) (E) | 22 | (A) (B) (C) (D) (E) | 32 | (A) (B) (C) (D) (E) |
| 3 | (A) (B) (C) (D) (E) | 13 | (A) (B) (C) (D) (E) | 23 | (A) (B) (C) (D) (E) | 33 | (A) (B) (C) (D) (E) |
| 4 | (A) (B) (C) (D) (E) | 14 | (A) (B) (C) (D) (E) | 24 | (A) (B) (C) (D) (E) | 34 | (A) (B) (C) (D) (E) |
| 5 | (A) (B) (C) (D) (E) | 15 | (A) (B) (C) (D) (E) | 25 | (A) (B) (C) (D) (E) | 35 | (A) (B) (C) (D) (E) |
| 6 | (A) (B) (C) (D) (E) | 16 | (A) (B) (C) (D) (E) | 26 | (A) (B) (C) (D) (E) | 36 | (A) (B) (C) (D) (E) |
| 7 | (A) (B) (C) (D) (E) | 17 | (A) (B) (C) (D) (E) | 27 | (A) (B) (C) (D) (E) | 37 | (A) (B) (C) (D) (E) |
| 8 | (A) (B) (C) (D) (E) | 18 | (A) (B) (C) (D) (E) | 28 | (A) (B) (C) (D) (E) | 38 | (A) (B) (C) (D) (E) |
| 9 | (A) (B) (C) (D) (E) | 19 | (A) (B) (C) (D) (E) | 29 | (A) (B) (C) (D) (E) | 39 | (A) (B) (C) (D) (E) |
| 10 | (A) (B) (C) (D) (E) | 20 | (A) (B) (C) (D) (E) | 30 | (A) (B) (C) (D) (E) | 40 | (A) (B) (C) (D) (E) |

SECTION

9

- | | | | | | | | |
|----|---------------------|----|---------------------|----|---------------------|----|---------------------|
| 1 | (A) (B) (C) (D) (E) | 11 | (A) (B) (C) (D) (E) | 21 | (A) (B) (C) (D) (E) | 31 | (A) (B) (C) (D) (E) |
| 2 | (A) (B) (C) (D) (E) | 12 | (A) (B) (C) (D) (E) | 22 | (A) (B) (C) (D) (E) | 32 | (A) (B) (C) (D) (E) |
| 3 | (A) (B) (C) (D) (E) | 13 | (A) (B) (C) (D) (E) | 23 | (A) (B) (C) (D) (E) | 33 | (A) (B) (C) (D) (E) |
| 4 | (A) (B) (C) (D) (E) | 14 | (A) (B) (C) (D) (E) | 24 | (A) (B) (C) (D) (E) | 34 | (A) (B) (C) (D) (E) |
| 5 | (A) (B) (C) (D) (E) | 15 | (A) (B) (C) (D) (E) | 25 | (A) (B) (C) (D) (E) | 35 | (A) (B) (C) (D) (E) |
| 6 | (A) (B) (C) (D) (E) | 16 | (A) (B) (C) (D) (E) | 26 | (A) (B) (C) (D) (E) | 36 | (A) (B) (C) (D) (E) |
| 7 | (A) (B) (C) (D) (E) | 17 | (A) (B) (C) (D) (E) | 27 | (A) (B) (C) (D) (E) | 37 | (A) (B) (C) (D) (E) |
| 8 | (A) (B) (C) (D) (E) | 18 | (A) (B) (C) (D) (E) | 28 | (A) (B) (C) (D) (E) | 38 | (A) (B) (C) (D) (E) |
| 9 | (A) (B) (C) (D) (E) | 19 | (A) (B) (C) (D) (E) | 29 | (A) (B) (C) (D) (E) | 39 | (A) (B) (C) (D) (E) |
| 10 | (A) (B) (C) (D) (E) | 20 | (A) (B) (C) (D) (E) | 30 | (A) (B) (C) (D) (E) | 40 | (A) (B) (C) (D) (E) |

SECTION

10

- | | | | | | | | |
|----|---------------------|----|---------------------|----|---------------------|----|---------------------|
| 1 | (A) (B) (C) (D) (E) | 11 | (A) (B) (C) (D) (E) | 21 | (A) (B) (C) (D) (E) | 31 | (A) (B) (C) (D) (E) |
| 2 | (A) (B) (C) (D) (E) | 12 | (A) (B) (C) (D) (E) | 22 | (A) (B) (C) (D) (E) | 32 | (A) (B) (C) (D) (E) |
| 3 | (A) (B) (C) (D) (E) | 13 | (A) (B) (C) (D) (E) | 23 | (A) (B) (C) (D) (E) | 33 | (A) (B) (C) (D) (E) |
| 4 | (A) (B) (C) (D) (E) | 14 | (A) (B) (C) (D) (E) | 24 | (A) (B) (C) (D) (E) | 34 | (A) (B) (C) (D) (E) |
| 5 | (A) (B) (C) (D) (E) | 15 | (A) (B) (C) (D) (E) | 25 | (A) (B) (C) (D) (E) | 35 | (A) (B) (C) (D) (E) |
| 6 | (A) (B) (C) (D) (E) | 16 | (A) (B) (C) (D) (E) | 26 | (A) (B) (C) (D) (E) | 36 | (A) (B) (C) (D) (E) |
| 7 | (A) (B) (C) (D) (E) | 17 | (A) (B) (C) (D) (E) | 27 | (A) (B) (C) (D) (E) | 37 | (A) (B) (C) (D) (E) |
| 8 | (A) (B) (C) (D) (E) | 18 | (A) (B) (C) (D) (E) | 28 | (A) (B) (C) (D) (E) | 38 | (A) (B) (C) (D) (E) |
| 9 | (A) (B) (C) (D) (E) | 19 | (A) (B) (C) (D) (E) | 29 | (A) (B) (C) (D) (E) | 39 | (A) (B) (C) (D) (E) |
| 10 | (A) (B) (C) (D) (E) | 20 | (A) (B) (C) (D) (E) | 30 | (A) (B) (C) (D) (E) | 40 | (A) (B) (C) (D) (E) |

YOUR NAME (PRINT) _____
 LAST FIRST MI
 TEST CENTER _____
 NUMBER NAME OF TEST CENTER ROOM NUMBER

SAT Reasoning Test — General Directions

Timing

- You will have 3 hours and 45 minutes to work on this test.
- There are ten separately timed sections:
 - ▶ One 25-minute essay
 - ▶ Six other 25-minute sections
 - ▶ Two 20-minute sections
 - ▶ One 10-minute section
- You may work on only one section at a time.
- The supervisor will tell you when to begin and end each section.
- If you finish a section before time is called, check your work on that section. You may NOT turn to any other section.
- Work as rapidly as you can without losing accuracy. Don't waste time on questions that seem too difficult for you.

Marking Answers

- Carefully mark only one answer for each question.
- Make sure each mark is dark and completely fills the circle.
- Do not make any stray marks on your answer sheet.
- If you erase, do so completely. Incomplete erasures may be scored as intended answers.
- Use only the answer spaces that correspond to the question numbers.
- You may use the test book for scratchwork, but you will not receive credit for anything written there.
- After time has been called, you may not transfer answers to your answer sheet or fill in circles.
- You may not fold or remove pages or portions of a page from this book, or take the book or answer sheet from the testing room.

Scoring

- For each correct answer to a question, you receive one point.
- For questions you omit, you receive no points.
- For a wrong answer to a multiple-choice question, you lose one-fourth of a point.
 - ▶ If you can eliminate one or more of the answer choices as wrong, you increase your chances of choosing the correct answer and earning one point.
 - ▶ If you can't eliminate any choice, move on. You can return to the question later if there is time.
- For a wrong answer to a student-produced response ("grid-in") math question, you don't lose any points.
- The essay is scored on a 1 to 6 scale by two different readers. The total essay score is the sum of the two readers' scores.
- An off-topic or blank essay will receive a score of zero.

The passages for this test have been adapted from published material. The ideas contained in them do not necessarily represent the opinions of the College Board or Educational Testing Service.

IMPORTANT: The codes below are unique to your test book. Copy them on your answer sheet in boxes 8 and 9 and fill in the corresponding circles exactly as shown.

9	TEST FORM (Copy from back of test book)
4162068	

8	FORM CODE (Copy and grid as on back of test book.)					
A	B	C	D	1	2	3
●	A	A	A	0	0	0
(B)	●	B	B	●	1	1
(C)	C	●	C	2	●	2
(D)	D	D	●	3	3	●
(E)	E	E	E	4	4	4
(F)	F	F	F	5	5	5
(G)	G	G	G	6	6	6
(H)	H	H	H	7	7	7
(I)	I	I	I	8	8	8
(J)	J	J	J	9	9	9
(K)	K	K	K			
(L)	L	L	L			
(M)	M	M	M			
(N)	N	N	N			
(O)	O	O	O			
(P)	P	P	P			
(Q)	Q	Q	Q			
(R)	R	R	R			
(S)	S	S	S			
(T)	T	T	T			
(U)	U	U	U			
(V)	V	V	V			
(W)	W	W	W			
(X)	X	X	X			
(Y)	Y	Y	Y			
(Z)	Z	Z	Z			

DO NOT OPEN THIS BOOK UNTIL THE SUPERVISOR TELLS YOU TO DO SO.



ESSAY

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

ESSAY



ESSAY

Time — 25 minutes

Turn to page 2 of your answer sheet to write your ESSAY.

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned below. **DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.**

Think carefully about the issue presented in the following excerpt and the assignment below.

People who like to think of themselves as tough-minded and realistic tend to take it for granted that human nature is “selfish” and that life is a struggle in which only the fittest may survive. According to this view, the basic law by which people must live is the law of the jungle. The “fittest” are those people who can bring to the struggle superior force, superior cunning, and superior ruthlessness.

Adapted from S.I. Hayakawa, *Language in Thought and Action*

Assignment: Do people have to be highly competitive in order to succeed? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.

DO NOT WRITE YOUR ESSAY IN YOUR TEST BOOK. You will receive credit only for what you write on your answer sheet.

BEGIN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET.

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.**



SECTION 2

Time — 25 minutes

20 Questions

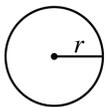
Turn to Section 2 (page 4) of your answer sheet to answer the questions in this section.

Directions: For this section, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratchwork.

Notes

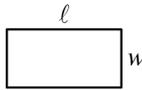
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

Reference Information

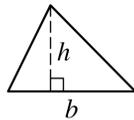


$$A = \pi r^2$$

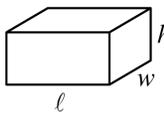
$$C = 2\pi r$$



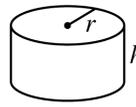
$$A = \ell w$$



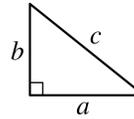
$$A = \frac{1}{2}bh$$



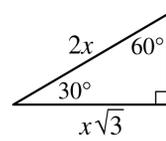
$$V = \ell wh$$



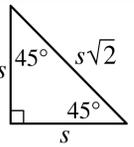
$$V = \pi r^2 h$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



The number of degrees of arc in a circle is 360.

The sum of the measures in degrees of the angles of a triangle is 180.

1. If $x^2 - 36 = 0$, which of the following could be a value of x ?

(A) -6
(B) -4
(C) 0
(D) 3
(E) 12

2. The length of a rectangular rug is 2 feet more than its width. If the length of the rug is 8 feet, what is the area of the rug in square feet?

(A) 16
(B) 48
(C) 66
(D) 80
(E) 96

3. If $r = 2t$ and $t = 3$, what is the value of $2r$?

(A) 2
(B) 4
(C) 6
(D) 8
(E) 12

Some integers in set X are even.

4. If the statement above is true, which of the following must also be true?

(A) If an integer is even, it is in set X .
(B) If an integer is odd, it is in set X .
(C) All integers in set X are even.
(D) All integers in set X are odd.
(E) Not all integers in set X are odd.

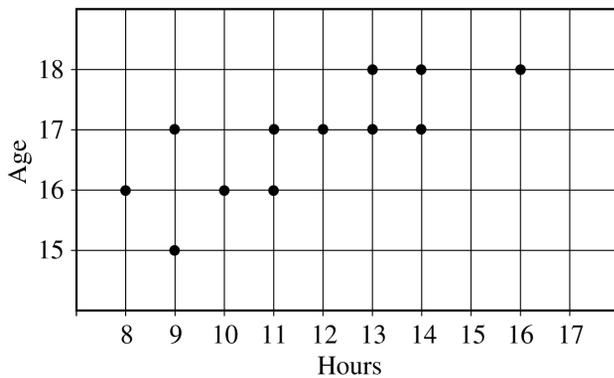
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5. A triangle has a perimeter of 13 and one side of length 3. If the lengths of the other two sides are equal, what is the length of each of them?
- (A) 4
(B) 5
(C) 6
(D) 7
(E) 8

7. Squaring the product of z and 5 gives the same result as squaring the sum of z and 5. Which of the following equations could be used to find all possible values of z ?
- (A) $5z^2 = (z + 5)^2$
(B) $(5z)^2 = z^2 + 5^2$
(C) $5^2z = z^2 + 5^2$
(D) $(5z)^2 = (z + 5)^2$
(E) $5z^2 = z^2 + 5^2$

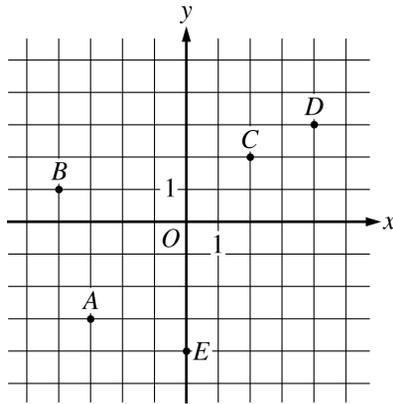
HOURS WORKED BY STUDENTS



6. The grid above shows the number of hours worked last week by 12 students of various ages at after-school jobs. Which of the following is true, according to this grid?
- (A) Half of the students worked more than 12 hours each.
(B) One student worked exactly 15 hours.
(C) One 16 year old worked more than 11 hours.
(D) More 18 year olds than 17 year olds worked at least 13 hours each.
(E) Most of the students were under 16 years old.

8. If as many 7-inch pieces of wire as possible are cut from a wire that is 3 feet long, what is the total length of the wire that is left over? (12 inches = 1 foot)
- (A) 1 inch
(B) 2 inches
(C) 3 inches
(D) 4 inches
(E) 5 inches

GO ON TO THE NEXT PAGE



9. Which of the lettered points in the figure above has coordinates (x, y) such that $|x| + |y| = 5$?

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

$$A = \left\{ \frac{4}{7}, 1, \frac{5}{2}, 4, \frac{11}{2}, 7 \right\}$$

$$B = \left\{ \frac{4}{7}, \frac{7}{4}, 4, 7 \right\}$$

10. If n is a member of both set A and set B above, which of the following must be true?

I. n is an integer.
II. $4n$ is an integer.
III. $n = 4$

(A) None
(B) II only
(C) I and II only
(D) I and III only
(E) I, II, and III

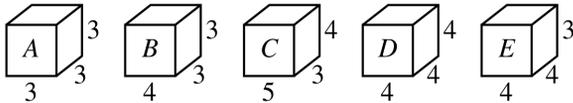
11. If y is directly proportional to x and if $y = 20$ when $x = 6$, what is the value of y when $x = 9$?

(A) $\frac{10}{3}$
(B) $\frac{40}{3}$
(C) 23
(D) 27
(E) 30

12. The n th term of a sequence is defined to be $4n + 3$. The 50th term is how much greater than the 45th term?

(A) 5
(B) 16
(C) 20
(D) 23
(E) 24

GO ON TO THE NEXT PAGE



Note: Figures not drawn to scale.

13. Which of the rectangular solids shown above has a volume closest to the volume of a right circular cylinder with radius 2 and height 4?
- (A) A
(B) B
(C) C
(D) D
(E) E

$$j = x^2 - 0.49$$

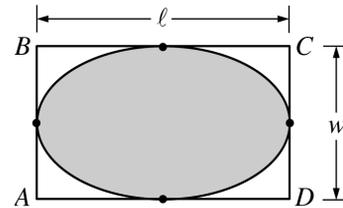
$$k = (x - 0.49)^2$$

$$m = x^3 - 0.49$$

14. If x is a negative integer, what is the ordering of j , k , and m from least to greatest?
- (A) $j < k < m$
(B) $j < m < k$
(C) $k < j < m$
(D) $m < j < k$
(E) $m < k < j$

15. Flour, water, and salt are mixed by weight in the ratio of 5:4:1, respectively, to produce a certain type of dough. In order to make 5 pounds of this dough, what weight of salt, in pounds, is required?

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



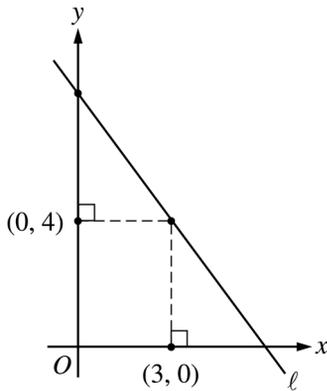
16. In rectangle $ABCD$ above, the area of the shaded region is given by $\frac{\pi \ell w}{4}$. If the area of the shaded region is 7π , what is the total area, to the nearest whole number, of the unshaded regions of rectangle $ABCD$?
- (A) 4
(B) 6
(C) 8
(D) 9
(E) 10

GO ON TO THE NEXT PAGE



17. The city library donated some children's books to Mr. Clark's first-grade class. If each student takes 4 books, there will be 20 books left. If 3 students do not take a book and the rest of the students take 5 books each, there will be no books left. How many books were donated to the class?

(A) 120
(B) 140
(C) 160
(D) 175
(E) 185



Note: Figure not drawn to scale.

18. In the figure above, if line ℓ has a slope of -2 , what is the y -intercept of ℓ ?
- (A) 7
(B) 8
(C) 9
(D) 10
(E) 12

19. For all positive integers w and y , where $w > y$, let the operation \otimes be defined by $w \otimes y = \frac{2^{w+y}}{2^{w-y}}$. For how many positive integers w is $w \otimes 1$ equal to 4?

(A) None
(B) One
(C) Two
(D) Four
(E) More than four



20. The figure above represents four offices that will be assigned randomly to four employees, one employee per office. If Karen and Tina are two of the four employees, what is the probability that each will be assigned an office indicated with an **X**?

(A) $\frac{1}{16}$
(B) $\frac{1}{12}$
(C) $\frac{1}{6}$
(D) $\frac{1}{4}$
(E) $\frac{1}{2}$

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

**SECTION 4**

Time — 25 minutes

24 Questions

Turn to Section 4 (page 5) of your answer sheet to answer the questions in this section.**Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Example:

Hoping to ----- the dispute, negotiators proposed a compromise that they felt would be ----- to both labor and management.

- (A) enforce . . useful
(B) end . . divisive
(C) overcome . . unattractive
(D) extend . . satisfactory
(E) resolve . . acceptable

(A) (B) (C) (D) ●

- Edmund White is a ----- author: he has written novels, essays, short stories, a travel book, and a biography.
(A) demonstrative (B) nebulous (C) meticulous
(D) versatile (E) metaphoric
- The archaeologist believed the coin she unearthed was ----- evidence, unquestionable proof that the site dated to the fourth century.
(A) immaterial (B) potential (C) incriminating
(D) nominal (E) indisputable
- Although the rigors of ballet dancing are primarily -----, this art is also emotionally and spiritually -----.
(A) illusory . . taxing
(B) exaggerated . . balanced
(C) physical . . demanding
(D) appealing . . indulgent
(E) strenuous . . dubious
- Studies of ----- among turtles are sometimes ----- by the fact that the subjects live so long that researchers retire before the studies can be completed.
(A) extinction . . enhanced
(B) longevity . . hampered
(C) behavior . . belied
(D) mortality . . bolstered
(E) reproduction . . confirmed
- A model of ----- behavior, Cunningham never ate or drank to excess.
(A) temperate (B) laconic (C) duplicitous
(D) aesthetic (E) voluble
- The entrepreneur had a well-deserved reputation for -----, having accurately anticipated many changes unforeseen by established business leaders.
(A) prescience (B) sincerity (C) avarice
(D) complicity (E) mendacity
- Scientists require observable data, not -----, to support a hypothesis; sound science is grounded in ----- results rather than speculation.
(A) induction . . diminutive
(B) experimentation . . pragmatic
(C) intuition . . fiscal
(D) bombast . . theoretical
(E) conjecture . . empirical
- The director complained that the sitcom's theme song was downright -----, having no more pep and vigor than a -----.
(A) tedious . . jingle
(B) inchoate . . lullaby
(C) lugubrious . . dirge
(D) facetious . . ballad
(E) sprightly . . eulogy

GO ON TO THE NEXT PAGE



Each passage below is followed by questions based on its content. Answer the questions on the basis of what is stated or implied in each passage and in any introductory material that may be provided.

Questions 9-10 are based on the following passage.

In between school days, we gathered hazelnuts, fished, had long deer-hunting weekends, went to powwows, beaded on looms, and made quilts. I did not question the necessity or value of our school education, but somehow I grew up knowing it wasn't the only education I would need. I'm thankful for those experiences of my Anishinaabe heritage, because now I know by heart not only the national anthem, but the ancient song of the loon. I recognize not only the alphabet and the parts of an English sentence, but the intricate language of a beaver's teeth and tail.

9. The main idea of the passage is that the author

- (A) preferred certain academic subjects over others
- (B) succeeded in learning to speak many foreign languages
- (C) valued knowledge of the natural world more than book learning
- (D) loved both family trips and tribal activities
- (E) learned many important things both in and out of school

10. The author's overall tone in this passage is best described as one of

- (A) jubilation
- (B) frustration
- (C) curiosity
- (D) appreciation
- (E) uncertainty

Questions 11-12 are based on the following passage.

Daily life is overflowing with mundane mental events. A paper clip gleams amid stacks of documents, a friend's face shines like a beacon out of a crowd, the smell of freshly baked bread evokes childhood memories— thoughts and perceptions such as these flow by with monotonous ease.

So it seems, anyway. Yet given what scientists know about how brains work, even the ability to perceive a paper clip on a messy desk represents an extraordinary and mysterious achievement.

11. In the first paragraph, the author implicitly likens our experience of sensory impressions to

- (A) an emotional roller coaster
- (B) an unobstructed stream
- (C) a repeated image
- (D) a nostalgic reminiscence
- (E) a diverting daydream

12. The primary purpose of the passage is to

- (A) celebrate life's mundane but gratifying pleasures
- (B) convey the overwhelming confusion of every-day life
- (C) explore the biological implications of a person's decisions
- (D) suggest the complexity of perceptual processes
- (E) present a scientific analysis of an automatic reflex

**Questions 13-24 are based on the following passage.**

The following passage is from a 1991 essay that discusses the debate over which authors should be taught in English classes.

Line
5 Now, what are we to make of this sputtering debate, in which charges of imperialism are met by equally passionate accusations of vandalism, in which each side hates the other, and yet each seems to have its share of reason? It occurs to me that perhaps what we have here is one of those debates in which the opposing sides, unbeknownst to themselves, share a myopia that will turn out to be the most interesting and important feature of the whole discussion, a debate, for instance, like that of the
10 Founding Fathers over the nature of the franchise. Think of all the energy and passion spent debating the question of property qualifications, or direct *versus* legislative elections, while all along, unmentioned and unimagined, was the fact—to us so central—that women and slaves
15 were never considered for any kind of vote.

While everyone is busy fighting over what should be taught in the classroom, something is being overlooked. That is the state of reading, and books, and literature in our country, at this time. Why, ask yourself, is everyone so hot
20 under the collar about what to put on the required-reading shelf? It is because, while we have been arguing so fiercely about which books make the best medicine, the patient has been slipping deeper and deeper into a coma.

Let us imagine a country in which reading was a popular
25 voluntary activity. There, parents read books for their own edification and pleasure and are seen by their children at this silent and mysterious pastime. These parents also read to their children, give them books for presents, talk to them about books, and underwrite, with their taxes, a public
30 library system that is open all day, every day. In school, the children study certain books together but also have an active reading life of their own. Years later, it may even be hard for them to remember if they read *Jane Eyre* at home and Judy Blume¹ in class or the other way around.
35 In college, young people continue to be assigned certain books, but far more important are the books they discover for themselves browsing in the library, in bookstores, on the shelves of friends, one book leading to another, back and forth in history and across languages and cultures.
40 After graduation, they continue to read and in the fullness of time produce a new generation of readers. Oh happy land! I wish we all lived there.

In that country of real readers, voluntary, active, self-determined readers, a debate like the current one over the
45 canon would not be taking place. Or if it did, it would be as a kind of parlor game: What books would you take to a desert island? Everyone would know that the top-ten list was merely a tiny fraction of the books one would read in a lifetime. It would not seem racist or sexist or hopelessly
50 hidebound to put Nathaniel Hawthorne on the list and not Toni Morrison.² It would be more like putting oatmeal

and not noodles on the breakfast menu—a choice partly arbitrary, partly a nod to the national past, and partly, dare one say it, a kind of reverse affirmative action: School
55 might frankly *be* the place where one reads the books that are a little off-putting, that have gone a little cold, that you might overlook because they do not address, in reader-friendly contemporary fashion, the issues most immediately at stake in modern life but that, with a little study, turn out
60 to have a great deal to say. Being on the list wouldn't mean so much. It might even add to a writer's cachet *not* to be on the list, to be in one way or another too heady, too daring, too exciting to be ground up into institutional fodder for teenagers. Generations of high school kids have been turned
65 off to George Eliot³ by being forced to read *Silas Marner* at a tender age. One can imagine a whole new readership for her if grown-ups were left to approach *Middlemarch* and *Daniel Deronda* with open minds, at their leisure.

¹ *Jane Eyre*, by Charlotte Brontë, is a nineteenth-century novel. Judy Blume writes contemporary young adult novels.

² Hawthorne was a nineteenth-century American writer. Toni Morrison is a contemporary American writer.

³ George Eliot was the pseudonym of a nineteenth-century female British novelist.

13. According to the author, too much energy today is spent debating
- (A) how to improve the education system
 - (B) how to make literature seem relevant
 - (C) who the better writers are
 - (D) what students should read in school
 - (E) whether or not to teach classic works
14. In the first two paragraphs of the passage (lines 1-23), the author suggests that both sides of the debate
- (A) neglect a fundamental issue
 - (B) disregard a key piece of evidence
 - (C) ignore opposing views
 - (D) lack a historical perspective
 - (E) dismiss a valuable tradition



15. The author invokes “the Founding Fathers” (lines 9-10) chiefly in order to
- (A) appeal to the reader’s sense of patriotism
 - (B) introduce a historical parallel
 - (C) examine the history of legislative debate
 - (D) remind the reader how attitudes change over time
 - (E) suggest that progress is compatible with tradition
16. In line 18, “state” most nearly means
- (A) government
 - (B) territory
 - (C) condition
 - (D) scale
 - (E) mood
17. In line 23, the “coma” represents the
- (A) rebellion of students against traditional texts
 - (B) lack of enthusiasm for reading in general
 - (C) scarcity of books on official reading lists
 - (D) difficulty of understanding archaic language
 - (E) negative effects of popular media
18. In lines 24-27 (“Let . . . pastime”), the country described is noteworthy because
- (A) people have allowed new interests to develop from their reading
 - (B) parents demonstrate their enjoyment of reading
 - (C) children learn to read at an early age
 - (D) children and parents share many activities
 - (E) writing is viewed as a valuable skill
19. Lines 30-39 (“In school . . . cultures”) present a model of education where students learn to
- (A) value cultural diversity over tradition
 - (B) respect the views of both sides of the debate
 - (C) reflect critically on the nature of American schooling
 - (D) differentiate between classic and contemporary works
 - (E) explore the world through wide-ranging reading
20. In lines 33-34, the author cites *Jane Eyre* and Judy Blume primarily in order to
- (A) propose that a love of reading might blur a commonly perceived distinction
 - (B) show that younger readers cannot distinguish between literature of different eras
 - (C) argue that most modern novels have no lasting impact on readers
 - (D) observe that classic literature has great appeal for even reluctant readers
 - (E) indicate that certain works are interchangeable
21. In lines 35-39 (“In college . . . cultures”), the education illustrated is best described as
- (A) elitist
 - (B) philanthropic
 - (C) eclectic
 - (D) methodical
 - (E) rudimentary
22. In lines 54-60 (“School . . . say”), the author describes a world in which schools teach books that are
- (A) interesting
 - (B) celebrated
 - (C) uncontroversial
 - (D) not obviously relevant
 - (E) not likely to inspire
23. Lines 60-64 (“Being . . . teenagers”) suggest that excluding a book from a reading list might
- (A) enhance the reputation of the book’s author
 - (B) encourage students to protest the decision
 - (C) influence course curricula nationwide
 - (D) appease conservative parents
 - (E) disappoint the book’s fans
24. The main purpose of the passage is to
- (A) shift the focus of a debate
 - (B) support one side in a debate
 - (C) suggest a practical solution
 - (D) revive a discredited idea
 - (E) promote certain kinds of writing

S T O P

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.**



SECTION 5

Time — 25 minutes

35 Questions

Turn to Section 5 (page 5) of your answer sheet to answer the questions in this section.

Directions: For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

The following sentences test correctness and effectiveness of expression. Part of each sentence or the entire sentence is underlined; beneath each sentence are five ways of phrasing the underlined material. Choice A repeats the original phrasing; the other four choices are different. If you think the original phrasing produces a better sentence than any of the alternatives, select choice A; if not, select one of the other choices.

In making your selection, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, sentence construction, and punctuation. Your selection should result in the most effective sentence—clear and precise, without awkwardness or ambiguity.

EXAMPLE:

Laura Ingalls Wilder published her first book and she was sixty-five years old then.

- (A) and she was sixty-five years old then
- (B) when she was sixty-five
- (C) at age sixty-five years old
- (D) upon the reaching of sixty-five years
- (E) at the time when she was sixty-five

(A) ● (C) (D) (E)

1. Inside famed actor Lily Langtry's private railroad car were a drawing room with a piano, bath fixtures of silver, and there were draperies trimmed with Brussels lace.

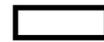
- (A) there were draperies trimmed with Brussels lace
- (B) draperies trimmed with Brussels lace
- (C) trimmed with Brussels lace were draperies
- (D) the draperies were trimmed with Brussels lace
- (E) draperies trimmed with Brussels lace were there

2. Samuel Adams was by no means the first American to espouse the democratic cause, but he has been the first who conceived the party machinery that made it practical.

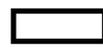
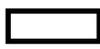
- (A) has been the first who conceived
- (B) had been the first who conceived
- (C) was the first having conceived
- (D) was the first to conceive
- (E) having been the first to conceive

3. The plans were made too hastily, without enough thought behind it.
- (A) too hastily, without enough thought behind it
 - (B) too hasty, without enough thought behind it
 - (C) too hastily, without enough thought behind them
 - (D) too hasty, and there is not enough thought behind them
 - (E) too hastily, and there is not enough thought behind it
4. Many psychologists do not use hypnosis in their practices, it is because they know very little about it and are wary of it as a result.
- (A) practices, it is because they know very little about it and are wary of it as a result
 - (B) practices because they know very little about it and are therefore wary of it
 - (C) practices for the reason that they know very little about it, with resulting wariness
 - (D) practices because of knowing very little about it and therefore they are wary of it
 - (E) practices, their knowledge of it being very little results in wariness of it
5. No two of the specimens was sufficiently alike to warrant them being called members of a single species.
- (A) was sufficiently alike to warrant them being called
 - (B) was sufficiently alike to warrant the calling of them
 - (C) was sufficiently alike to warrant their being called
 - (D) were sufficiently alike to warrant the calling of them
 - (E) were sufficiently alike to warrant calling them

GO ON TO THE NEXT PAGE



6. My grandson thinks he can cook better than any other person at the fair; and he has the blue ribbons to prove it.
- (A) My grandson thinks he can cook better than any other person at the fair; and he
- (B) My grandson thinks he can cook better than any other person at the fair, and he
- (C) My grandson thinks he can cook better than any person at the fair, consequently he
- (D) To think he can cook better than any other person at the fair, my grandson
- (E) Thinking he can cook better than any other person at the fair, my grandson
7. Differing only slightly from the Greeks were the Roman theaters, which were often freestanding rather than part of a hillside.
- (A) Differing only slightly from the Greeks were the Roman theaters, which
- (B) Differing only slightly from Greek theaters, Roman theaters
- (C) Differing only in the slightest from the Greeks were the Roman theaters, which
- (D) The Greeks differed only slightly from the Romans, they
- (E) The Greek theaters differed from the Roman theaters only slightly, where they
8. When chronological order is followed too mechanically, they are obscuring rather than clarifying important relationships.
- (A) When chronological order is followed too mechanically, they are obscuring rather than clarifying important relationships.
- (B) When chronological order is followed too mechanically, it obscures rather than clarifying important relationships.
- (C) Chronological order, if too mechanically followed, obscures rather than it clarifies important relationships.
- (D) Chronological order, if followed too mechanically, obscures rather than clarifies important relationships.
- (E) If you follow a too mechanical chronological order, it obscures rather than clarifies important relationships.
9. Small marine crustaceans known as krill are often fed to farm animals, but there is not much human consumption.
- (A) animals, but there is not much human consumption
- (B) animals, but consumption is not done much by people
- (C) animals but are rarely eaten by people
- (D) animals, but eating them is rarely done by humans
- (E) animals, but among people there is not much consumption
10. The educator's remarks stressed that well-funded literacy programs are needed if everyone is to gain the skills required for survival in society.
- (A) that well-funded literacy programs are needed if everyone is to gain
- (B) that well-funded literacy programs needed in gaining
- (C) there is a need of well-funded literacy programs for everyone will gain
- (D) a need for well-funded literacy programs and everyone will gain
- (E) why well-funded literacy programs being necessary for everyone in gaining
11. The Portuguese musical tradition known as *fado*, or "fate," has been called the Portuguese blues because of their songs that bemoan someone's misfortune, especially the loss of romantic love.
- (A) of their songs that bemoan someone's
- (B) of their songs bemoaning their
- (C) its songs bemoan
- (D) the songs that bemoaned
- (E) of how it bemoans their



The following sentences test your ability to recognize grammar and usage errors. Each sentence contains either a single error or no error at all. No sentence contains more than one error. The error, if there is one, is underlined and lettered. If the sentence contains an error, select the one underlined part that must be changed to make the sentence correct. If the sentence is correct, select choice E. In choosing answers, follow the requirements of standard written English.

EXAMPLE:

The other delegates and him immediately
 A B C
 accepted the resolution drafted by the
 D
 neutral states. No error
 E

(A) ● (C) (D) (E)

12. Every year, toy manufacturers gather groups of
 A
 children into playrooms, observing their choices of
 toys as predicting which new products will become
 B C
 the most popular . No error
 D E
13. During the last fifty years, we come to take radio
 A B C
 communication for granted, but the mere suggestion
 that we could communicate in such a fashion
 D
 must once have seemed outlandish. No error
 E
14. The uncompromising tone of a recent city hall
 A
 ordinance concerning the blocking of emergency
 B
 vehicles in traffic jams carry a stern warning to
 C D
 motorists. No error
 E
15. Formed by volcanic eruptions over the last five
 A
 million years, the Hawaiian Islands containing an
 B
incredibly wide variety of species—many found
 C
nowhere else on Earth. No error
 D E
16. Because the owl is usually nocturnal plus being
 A B
 virtually noiseless in flight, it is seldom seen by the
 C D
 casual observer. No error
 E
17. An economical and efficient recycling center
 A
is accessible to the public, responsive to community
 B
 needs, and comply with current federal regulations
 C
governing waste disposal. No error
 D E
18. Jean Toomer was not only the author of *Cane*, a
 A
 novel whose publication has been viewed as marking
 B C
 the beginning of the Harlem Renaissance, but also
 a respected advisor among Quakers . No error
 D E
19. Election returns came in from upstate New York
 A
quite rapid , but the results from New York City
 B
were known even faster . No error
 C D E

GO ON TO THE NEXT PAGE



20. As we rely more and more on the Internet, your need
A B
for effective security planning and design to safeguard
C
data has increased. No error
D E
21. The book is essentially a detailed and
A
very well documented record of what happened
B C
to each of the protestors. No error
D E
22. Experts agree that permanently modifying eating and
A
exercise habits rather than merely dieting for brief
B
periods are the key to controlling weight. No error
C D E
23. The ability to control the plots of our dreams is
A B
a skill, researchers have shown, that we can learn
C
if you want to change recurrent dreams. No error
D E
24. In swimming as to soccer, Evangelina proved time
A B
after time to be an abler competitor than Juanita.
C D
No error
E
25. The common cold is one of our most indiscriminate
A
diseases; it makes no distinction between
B C
you and me, millionaires and paupers, or athletes and
D
couch potatoes. No error
E
26. Like his other cookbooks, in his new book
A
Chef Louis offers lengthy explanations of what
B
he considers to be basic cooking principles. No error
C D E
27. Paul Ecke, flower grower and hybridizer, became
A
known as “Mr. Poinsettia” after developing new
B
varieties of the flower and by pioneering it
C
as a living symbol of Christmas. No error
D E
28. Long thought of as a quiet, stuffy place
A B
where people just borrowed books, libraries
C
have been changing their images dramatically
D
over the last few years. No error
E
29. To understand twentieth-century economic practices,
A
we must be sufficiently familiar with Keynesian
B C
theories, whether one agrees with them or not.
D
No error
E



Directions: The following passage is an early draft of an essay. Some parts of the passage need to be rewritten.

Read the passage and select the best answers for the questions that follow. Some questions are about particular sentences or parts of sentences and ask you to improve sentence structure or word choice. Other questions ask you to consider organization and development. In choosing answers, follow the requirements of standard written English.

Questions 30-35 refer to the following passage.

(1) Not many children leave elementary school and they have not heard of Pocahontas' heroic rescue of John Smith from her own people, the Powhatans. (2) Generations of Americans have learned the story of a courageous Indian princess who threw herself between the Virginia colonist and the clubs raised to end his life. (3) The captive himself reported the incident. (4) According to that report, Pocahontas held his head in her arms and laid her own upon his to save him from death.

(5) But can Smith's account be trusted? (6) Probably it cannot, say several historians interested in dispelling myths about Pocahontas. (7) According to these experts, in his eagerness to find patrons for future expeditions, Smith changed the facts in order to enhance his image. (8) Portraying himself as the object of a royal princess' devotion may have merely been a good public relations ploy. (9) Research into Powhatan culture suggests that what Smith described as an execution might have been merely a ritual display of strength. (10) Smith may have been a character in a drama in which even Pocahontas was playing a role.

(11) As ambassador from the Powhatans to the Jamestown settlers, Pocahontas headed off confrontations between mutually suspicious parties. (12) Later, after her marriage to colonist John Rolfe, Pocahontas traveled to England, where her diplomacy played a large part in gaining support for the Virginia Company.

30. What is the best way to deal with sentence 1 (reproduced below) ?

Not many children leave elementary school and they have not heard of Pocahontas' heroic rescue of John Smith from her own people, the Powhatans.

- (A) Leave it as it is.
 (B) Switch its position with that of sentence 2.
 (C) Change "leave" to "have left".
 (D) Change "and they have not heard" to "without having heard".
 (E) Remove the comma and insert "known as the".
31. In context, which of the following is the best way to revise the underlined wording in order to combine sentences 3 and 4 ?
- The captive himself reported the incident. According to that report, Pocahontas held his head in her arms and laid her own upon his to save him from death.*
- (A) The captive himself reported the incident, according to which
 (B) Since then, the captive reported the incident, which said that
 (C) Consequently, the captive himself reports that
 (D) It seems that in the captive's report of the incident he says that
 (E) According to the captive's own report of the incident,
32. Which of the following phrases is the best to insert at the beginning of sentence 10 to link it to sentence 9 ?
- (A) Far from being in mortal danger,
 (B) If what he says is credible,
 (C) What grade school history never told you is this:
 (D) They were just performing a ritual, and
 (E) But quite to the contrary,



33. Which of the following best describes the relationship between sentences 9 and 10 ?
- (A) Sentence 10 concludes that the theory mentioned in sentence 9 is wrong.
 - (B) Sentence 10 adds to information reported in sentence 9.
 - (C) Sentence 10 provides an example to illustrate an idea presented in sentence 9.
 - (D) Sentence 10 poses an argument that contradicts the point made in sentence 9.
 - (E) Sentence 10 introduces a new source that confirms the claims made in sentence 9.
34. Which of the following would be the best sentence to insert before sentence 11 to introduce the third paragraph?
- (A) It is crucial to consider the political successes as well as the shortcomings of Pocahontas.
 - (B) The Pocahontas of legend is the most interesting, but the historical Pocahontas is more believable.
 - (C) If legend has overemphasized the bravery of Pocahontas, it has underplayed her political talents.
 - (D) To really know Pocahontas, we must get beyond myth and legend to the real facts about her private life.
 - (E) Perhaps we will never really know the real Pocahontas.
35. What information is most logical to add immediately after sentence 12 ?
- (A) How Rolfe and Pocahontas happened to meet and marry
 - (B) Details about other versions of the legend concerning John Smith
 - (C) Reasons for the confrontations between the Powhatans and the Jamestown settlers
 - (D) An account of Rolfe's life and work in Virginia
 - (E) A brief summary of the other public events in Pocahontas' life

STOP

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.**



SECTION 6

Time — 25 minutes

18 Questions

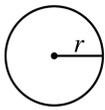
Turn to Section 6 (page 6) of your answer sheet to answer the questions in this section.

Directions: This section contains two types of questions. You have 25 minutes to complete both types. For questions 1-8, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratchwork.

Notes

- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

Reference Information

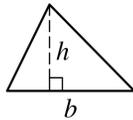


$$A = \pi r^2$$

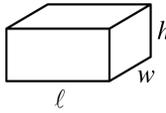
$$C = 2\pi r$$



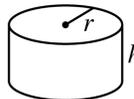
$$A = \ell w$$



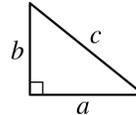
$$A = \frac{1}{2}bh$$



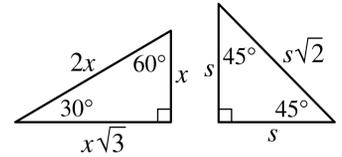
$$V = \ell wh$$



$$V = \pi r^2 h$$



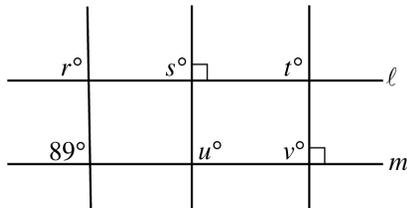
$$c^2 = a^2 + b^2$$



Special Right Triangles

The number of degrees of arc in a circle is 360.

The sum of the measures in degrees of the angles of a triangle is 180.



1. The figure above shows five lines. If $\ell \parallel m$, which of the following is NOT equal to 90° ?

- (A) r
 (B) s
 (C) t
 (D) u
 (E) v

2. Which of the following is divisible by 3 and by 5 but is not divisible by 10?

- (A) 30
 (B) 35
 (C) 40
 (D) 45
 (E) 60

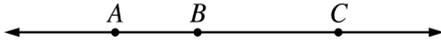
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t	0	1	2	3
$f(t)$	-1	1	3	5

3. The table above gives values of the function f for several values of t . If the graph of f is a line, which of the following defines $f(t)$?

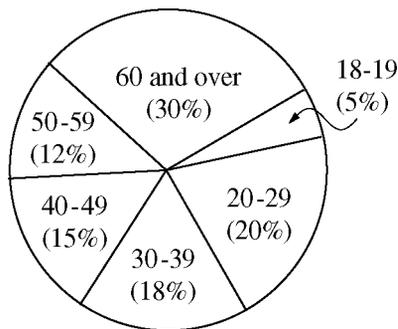
- (A) $f(t) = t - 1$
 (B) $f(t) = t + 1$
 (C) $f(t) = 2t + 1$
 (D) $f(t) = 2t - 1$
 (E) $f(t) = 1 - 2t$



4. In the figure above, the intersection of ray \overrightarrow{AC} and ray \overrightarrow{BA} is

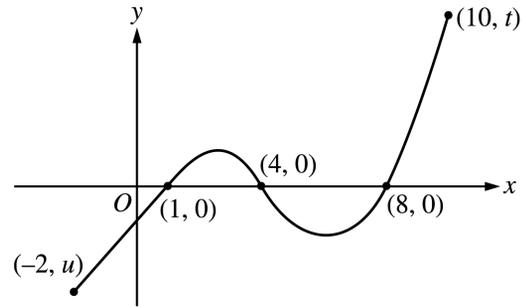
- (A) Segment \overline{AC}
 (B) Segment \overline{AB}
 (C) Ray \overrightarrow{AC}
 (D) Ray \overrightarrow{BA}
 (E) Line \overleftrightarrow{AC}

AGE DISTRIBUTION OF REGISTERED
VOTERS IN WASHINGTON COUNTY



5. According to the graph above, if there are 6,000 registered voters aged 60 and over in Washington County, how many registered voters are under the age of 30?

- (A) 1,000
 (B) 2,000
 (C) 3,000
 (D) 4,000
 (E) 5,000



6. Based on the graph of the function f above, what are the values of x for which $f(x)$ is positive?

- (A) $-2 \leq x < 1$ or $8 < x \leq 10$
 (B) $-2 \leq x < 1$ or $4 < x < 8$
 (C) $1 < x < 4$ or $8 < x \leq 10$
 (D) $-2 \leq x \leq 10$
 (E) $1 < x < 8$

7. Bernardo drives to work at an average speed of 50 miles per hour and returns along the same route at an average speed of 25 miles per hour. If his total travel time is 3 hours, what is the total number of miles in the round-trip?

- (A) 225
 (B) 112.5
 (C) 100
 (D) 62.5
 (E) 50

8. If x and y are integers such that $x^2 = 64$ and $y^3 = 64$, which of the following could be true?

- I. $x = 8$
 II. $y = -4$
 III. $x + y = -4$

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

GO ON TO THE NEXT PAGE



Directions: For Student-Produced Response questions 9-18, use the grids at the bottom of the answer sheet page on which you have answered questions 1-8.

Each of the remaining 10 questions requires you to solve the problem and enter your answer by marking the circles in the special grid, as shown in the examples below. You may use any available space for scratchwork.

Write answer in boxes.

Answer: $\frac{7}{12}$

	7	/	1	2
	●	○	○	○
	○	○	○	○
(1)	○	○	○	○
(2)	○	○	○	○
(3)	○	○	○	○
(4)	○	○	○	○
(5)	○	○	○	○
(6)	○	○	○	○
(7)	●	○	○	○
(8)	○	○	○	○
(9)	○	○	○	○

← Fraction line

Grid in result.

Answer: 2.5

	2	.	5
	○	○	○
	○	○	○
(1)	○	○	○
(2)	○	○	○
(3)	○	○	○
(4)	○	○	○
(5)	○	○	○
(6)	○	○	○
(7)	○	○	○
(8)	○	○	○
(9)	○	○	○

← Decimal point

Answer: 201

Either position is correct.

	2	0	1
	○	○	○
	○	○	○
(1)	○	○	○
(2)	○	○	○
(3)	○	○	○
(4)	○	○	○

	2	0	1
	○	○	○
	○	○	○
(1)	○	○	○
(2)	○	○	○
(3)	○	○	○
(4)	○	○	○

Note: You may start your answers in any column, space permitting. Columns not needed should be left blank.

- Mark no more than one circle in any column.
- Because the answer sheet will be machine-scored, **you will receive credit only if the circles are filled in correctly.**
- Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- No question has a negative answer.
- **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If $\begin{array}{|c|c|c|c|} \hline 3 & 1 & / & 2 \\ \hline \bullet & \bullet & \bullet & \bullet \\ \hline \end{array}$ is gridded, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)

- **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid. For example, if you obtain an answer such as 0.6666..., you should record your result as .666 or .667. **A less accurate value such as .66 or .67 will be scored as incorrect.**

Acceptable ways to grid $\frac{2}{3}$ are:

	2	/	3
	○	○	○
	○	○	○
(1)	○	○	○
(2)	○	○	○
(3)	○	○	○
(4)	○	○	○
(5)	○	○	○
(6)	○	○	○

	.	6	6	6
	○	○	○	○
	○	○	○	○
(1)	○	○	○	○
(2)	○	○	○	○
(3)	○	○	○	○
(4)	○	○	○	○
(5)	○	○	○	○
(6)	○	○	○	○

	.	6	6	7
	○	○	○	○
	○	○	○	○
(1)	○	○	○	○
(2)	○	○	○	○
(3)	○	○	○	○
(4)	○	○	○	○
(5)	○	○	○	○
(6)	○	○	○	○

9. When a certain number is multiplied by $\frac{1}{4}$ and the product is then multiplied by 32, the result is 60. What is the number?

10. What is the greatest integer value of x for which $2x - 20 < 0$?

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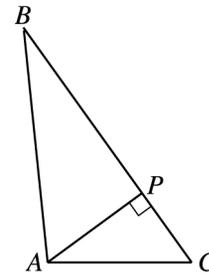
11. An object thrown upward from a height of h feet with an initial velocity of v feet per second will reach a maximum height of $h + \frac{v^2}{64}$ feet. If the object is thrown upward from a height of 6 feet with an initial velocity of 32 feet per second, what will be its maximum height, in feet?

12. The three angles of a triangle have measures of x° , $2x^\circ$, and y° , where $x > 55$. If x and y are integers, what is one possible value of y ?

CARMEN'S EXPENSES

	Meals	Hotel	Total
Wednesday	\$30		
Thursday	\$25		
Friday	\$26		
Total			\$291

13. The incomplete table above is an expense sheet for Carmen's business trip. If her hotel expenses were the same each day, what were her total expenses for Friday, in dollars? (Disregard the \$ sign when gridding your answer.)



14. In $\triangle ABC$ above, $AC = 5$, $PC = 3$, and $BP = 4\sqrt{3}$. What is the length of \overline{AB} ?

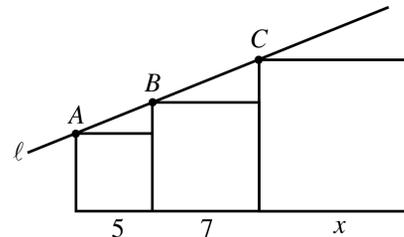
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15. On Monday morning Mr. Smith had a certain amount of money that he planned to spend during the week. On each subsequent morning, he had one fourth the amount of the previous morning. On Saturday morning, 5 days later, he had \$1. How many dollars did Mr. Smith originally start with on Monday morning? (Disregard the \$ sign when gridding your answer.)

16. The median of a list of 99 consecutive integers is 60. What is the greatest integer in the list?

17. When the positive integer m is divided by 5, the remainder is 3. What is the remainder when $20m$ is divided by 25?



18. The figure above shows three squares with sides of length 5, 7, and x , respectively. If A , B , and C lie on line ℓ , what is the value of x ?

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.



SECTION 7

Time — 25 minutes

24 Questions

Turn to Section 7 (page 6) of your answer sheet to answer the questions in this section.

Directions: For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Example:

Hoping to ----- the dispute, negotiators proposed a compromise that they felt would be ----- to both labor and management.

- (A) enforce . . useful
- (B) end . . divisive
- (C) overcome . . unattractive
- (D) extend . . satisfactory
- (E) resolve . . acceptable

(A) (B) (C) (D) ●

1. The success of *Notes of a Native Son* ----- author James Baldwin as one of the most ----- essayists of his time.
 - (A) buoyed . . irrelevant
 - (B) established . . prominent
 - (C) surrendered . . prolific
 - (D) decried . . cynical
 - (E) categorized . . mundane
2. In many parts of the world, people use rice as a central rather than a ----- part of their daily diets.
 - (A) pivotal (B) ritualistic (C) salient
 - (D) supplementary (E) solemn
3. Victor gained a reputation for being a ----- because he constantly bullied other children.
 - (A) bungler (B) ruffian (C) stickler
 - (D) daredevil (E) naysayer
4. Paradoxically, the senator was both a ----- and -----: she publicly defended the rights and wisdom of the people, but she often spoke with a disdainful air of superiority.
 - (A) demagogue . . a maverick
 - (B) conservative . . an anarchist
 - (C) populist . . an elitist
 - (D) moderate . . a reactionary
 - (E) partisan . . a snob
5. The geologist speculated that eons ago, before the area was -----, the present-day island was actually a hilltop in a vast forest.
 - (A) inundated (B) situated (C) rejuvenated
 - (D) supplanted (E) excavated

GO ON TO THE NEXT PAGE 



The passages below are followed by questions based on their content; questions following a pair of related passages may also be based on the relationship between the paired passages. Answer the questions on the basis of what is stated or implied in the passages and in any introductory material that may be provided.

Questions 6-9 are based on the following passages.

Passage 1

Line Any wildlife biologist can tell you how many deer
a given area can support—how much browse there is
for the deer to eat before they begin to suppress the
reproduction of trees, before they begin to starve in
5 the winter. Any biologist can calculate how many
wolves a given area can support too, in part by
counting the number of deer. And so on, up and
down the food chain. It's not an exact science, but
it comes pretty close—at least compared to figuring
10 out the carrying capacity of Earth for human beings,
which is an art so dark that anyone with any sense
stays away from it.

Passage 2

15 Estimates of the number of humans that Earth can
sustain have ranged in recent decades from fewer than
a billion to more than a trillion. Such elasticity is prob-
ably unavoidable, since “carrying capacity” is essentially
a subjective term. It makes little sense to talk about carry-
ing capacity in relationship to humans, who are capable of
20 adapting and altering both their culture and their physical
environment, and can thus defy any formula that might
settle the matter. The number of people that Earth can
support depends on how we on Earth want to live, on
what we want to consume, and on what we regard as
a crowd.

6. Both passages support which of the following conclusions about Earth's carrying capacity for humans?
- (A) It is routinely underestimated by biologists.
 - (B) It cannot be easily determined, given numerous variables and unknowns.
 - (C) It has only recently become the subject of considerable scientific debate.
 - (D) It is a valuable concept despite its apparent shortcomings.
 - (E) It has increased as a result of recent technological innovations.

7. The author of Passage 1 refers to “Any wildlife biologist” in line 1 and “Any biologist” in line 5 to emphasize the point that
- (A) a particular type of calculation can be made with great confidence
 - (B) scientific findings often meet with resistance from the general public
 - (C) certain beliefs are rarely questioned by scientists
 - (D) most biologists are concerned with issues related to wildlife mortality
 - (E) all biologists must be skilled at applying mathematical formulas
8. Both authors would agree that the “Estimates” (Passage 2, line 13) are
- (A) overly generous
 - (B) largely undocumented
 - (C) often misunderstood
 - (D) politically motivated
 - (E) essentially unreliable
9. Which of the following best describes the relationship between the two passages?
- (A) Passage 1 offers a hypothesis that is explicitly refuted in Passage 2.
 - (B) Passage 1 describes a popular misconception that is exemplified by Passage 2.
 - (C) Passage 2 presents an argument that elaborates on a point made in Passage 1.
 - (D) Passage 2 defends a position that is attacked in Passage 1.
 - (E) Passage 2 provides an anecdote that confirms the theory advanced in Passage 1.



Questions 10-15 are based on the following passage.

The passage below is excerpted from the introduction to a collection of essays published in 1994.

Line
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My entry into Black women’s history was serendipitous. In the preface to *Black Women in America: An Historical Encyclopedia*, I recount the story of exactly how Shirley Herd (who, in addition to teaching in the local school system, was also president of the Indianapolis chapter of the National Council of Negro Women) successfully provoked me into changing my research and writing focus. Although I dedicate this volume to her and to her best friend, fellow club woman and retired primary school teacher Virtea Downey, I still blush at the fact that I went to graduate school to become a historian in order to contribute to the Black Struggle for social justice and yet met her request to write a history of Black women in Indiana with condescension. I had never even thought about Black women as historical subjects with their own relations to a state’s history, and I thought her invitation and phone call extraordinarily intrusive. Only later did I concede how straightforward and reasonable had been her request to redress a historical omission. Black women were conspicuous by their absence. None of the social studies texts or state histories that Herd and Downey had used to teach their students made mention of the contributions of Black women. Since historians had left them out, Herd reasoned, only a “real” historian could put them in, and since I was the only tenured* Black woman historian in the state of Indiana at that time, the task was mine.

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Herd rejected my reservations and completely ignored my admonitions that she could not call up a historian and order a book the way you drive up to a fast-food restaurant and order a hamburger. In spite of my assertions of ignorance about the history of Black women in Indiana and my confession of having never studied the subject in any history course or examined any manuscript sources pertaining to their lives, Herd persevered. Black women, as historical subjects and agents, were as invisible to me as they had been to school textbook writers.

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Undaunted by my response, Herd demanded that I connect (thankfully without perfect symmetry) my biology and autobiography, my race and gender, my being a Black woman, to my skill as a historian, and write for her and for the local chapter members of the National Council a history of Black women in Indiana. I relented and wrote the book, *When the Truth Is Told: Black Women’s Culture and Community in Indiana, 1875-1950*, as requested. In the process, I was both humbled and astounded by the array of rich primary source materials Herd, Downey, and the other club women had spent two years collecting. There were diaries, club notes, church souvenir booklets, photographs, club minutes, birth, death, and marriage certificates, letters, and handwritten county and local histories. Collectively

55 this material revealed a universe I never knew existed in spite of having lived with Black women all of my life . . . and being one myself. Or perhaps more accurately, I knew a universe of Black women existed. I simply had not envisioned its historical meaning.

* tenure: a permanent position, often granted to a teacher after a specified number of years of demonstrated competence

10. The primary purpose of the passage is to show how the author
- (A) discovered Black women’s history when she was in graduate school
 - (B) became a historian to help Black people in America achieve social justice
 - (C) developed her research skills by undertaking a challenging project
 - (D) became a more renowned scholar due to the influence of two interesting individuals
 - (E) came to view Black women as a worthy subject for historical analysis
11. The first sentence indicates that the author’s “entry” (line 1) was
- (A) troublesome but worthwhile
 - (B) challenging but rewarding
 - (C) fortunate and inevitable
 - (D) unexpected but agreeable
 - (E) startling and provocative
12. The author initially responded to Herd’s request “with condescension” (lines 13-14) because the author
- (A) knew that Herd had not been to graduate school
 - (B) believed that historians should avoid controversial projects
 - (C) had too many other projects requiring her attention
 - (D) rejected Herd’s contention that such a history would address the Black struggle for social justice
 - (E) viewed Herd’s request as irrelevant and presumptuous
13. The comparison in lines 27-30 (“Herd . . . hamburger”) primarily demonstrates the author’s belief that historians
- (A) do not usually accept pay for their work
 - (B) are frequently unassuming about their profession
 - (C) do not generally undertake projects on request
 - (D) spend a comparatively long time on their projects
 - (E) do not generally interact with members of the public





14. Lines 30-34 (“In spite . . . persevered”) suggest that the author believed that
- (A) her lack of scholarly training on this topic was a reason to be embarrassed
 - (B) primary source materials on this subject would be difficult to find
 - (C) historians should conduct research in the areas in which they have expertise
 - (D) the lives of Black women in Indiana were historically interesting and complex
 - (E) Herd wanted her to conduct research on a topic of general interest
15. The last two sentences (“Or perhaps . . . meaning”) primarily indicate that the author
- (A) knew that Black women contributed to society, but she did not understand the significance of their contributions
 - (B) believed that the diversity of Black women’s experiences would make them difficult to write about
 - (C) assumed that because Black women are not frequently studied by historians, they would not be an acceptable topic for a book
 - (D) believed that Black women wield political power only in contemporary times
 - (E) was aware of the diversity of Black women’s lives, but was not willing to write about them



Questions 16-24 are based on the following passage.

This passage, from a short story published in 1978, describes a visit to a planetarium, a building in which images of stars, planets, and other astronomical phenomena are projected onto a domed ceiling.

Line
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Inside, we sat on wonderfully comfortable seats that were tilted back so that you lay in a sort of a hammock, attention directed to the bowl of the ceiling, which soon turned dark blue, with a faint rim of light around the edge. There was some splendid, commanding music. The adults all around were shushing the children, trying to make them stop crackling their potato chip bags. Then a man's voice, an eloquent professional voice, began to speak slowly, out of the walls. The voice reminded me a little of the way radio announcers used to introduce a piece of classical music or describe the progress of the Royal Family to Westminster Abbey on one of their royal occasions. There was a faint echo-chamber effect.

The dark ceiling was filled with stars. They came out not all at once but one after another, the way stars really do come out at night, though more quickly. The Milky Way galaxy appeared, was moving closer; stars swam into brilliance and kept on going, disappearing beyond the edges of the sky-screen or behind my head. While the flow of light continued, the voice presented the stunning facts. From a few light-years away, it announced, the Sun appears as a bright star, and the planets are not visible. From a few dozen light-years away, the Sun is not visible, either, to the naked eye. And that distance—a few dozen light-years—is only about a thousandth part of the distance from the Sun to the center of our galaxy, one galaxy, which itself contains about two hundred billion stars. And is, in turn, one of millions, perhaps billions, of galaxies. Innumerable repetitions, innumerable variations. All this rolled past my head, too, like balls of lightning.

Now realism was abandoned, for familiar artifice. A model of the solar system was spinning away in its elegant style. A bright bug took off from the Earth, heading for Jupiter. I set my dodging and shrinking mind sternly to recording facts. The mass of Jupiter two and a half times that of all the other planets put together. The Great Red Spot. The thirteen moons, the icy rings of Saturn. Back to Earth and moving in to hot and dazzling Venus. Atmospheric pressure ninety times ours. Moonless Mercury rotating three times while circling the Sun twice; an odd arrangement, not as satisfying as what they used to tell us—that it rotated once as it circled the Sun. No perpetual darkness after all. Why did they give out such confident information, only to announce later that it was quite wrong? Finally, the picture already familiar from magazines: the red soil of Mars, the blooming pink sky.

When the show was over I sat in my seat while children clambered over me, making no comments on anything they had just seen or heard. They were pestering their keepers for eatables and further entertainments. An effort had been made to get their attention, to take it away from canned drinks and potato chips and fix it on various knowns and unknowns and horrible immensities, and it seemed to have failed. A good thing, too, I thought. Children have a natural immunity, most of them, and it shouldn't be tampered with. As for the adults who would deplore it, the ones who promoted this show, weren't they immune themselves to the extent that they could put in the echo-chamber effects, the music, the solemnity, simulating the awe that they supposed they ought to feel? Awe—what was that supposed to be? A fit of the shivers when you looked out the window? Once you knew what it was, you wouldn't be courting it.

16. Which best describes the overall structure of the passage?
- (A) Narrative description followed by commentary
 - (B) Reminiscence followed by present-day application
 - (C) An account of a problem followed by a suggested solution
 - (D) A generalization followed by specific examples
 - (E) A discussion of opposing viewpoints followed by an attempt to reconcile them
17. Lines 5-7 (“The adults . . . bags”) primarily illustrate the children’s feelings of
- (A) helplessness
 - (B) restlessness
 - (C) awe
 - (D) anticipation
 - (E) irritation
18. In line 11, “progress” most nearly means
- (A) evolution
 - (B) improvement
 - (C) prosperity
 - (D) promotion
 - (E) advance
19. The first paragraph of the passage establishes a mood of
- (A) jaded dismissal
 - (B) nervous apprehension
 - (C) dramatic anticipation
 - (D) initial concern
 - (E) mundane routine



20. The words “dodging and shrinking” (line 34) primarily suggest that the narrator was
- (A) somewhat bothered by the children in the audience
 - (B) initially overwhelmed by the information being presented
 - (C) unable to admit to some troubling feelings about astronomy
 - (D) refusing to acknowledge the implications of space travel
 - (E) unwilling to believe the studies being discussed
21. In lines 40-43 (“Moonless . . . Sun”), the narrator’s comment about the “arrangement” demonstrates a preference for
- (A) irony
 - (B) inventiveness
 - (C) symmetry
 - (D) ornamentation
 - (E) ambiguity
22. In line 53, “fix” most nearly means
- (A) focus
 - (B) prepare
 - (C) repair
 - (D) decide
 - (E) influence
23. The phrase “horrible immensities” (line 54) primarily indicates
- (A) exaggerated information
 - (B) unforeseen events
 - (C) historical monstrosities
 - (D) controversial debates
 - (E) incomprehensible realities
24. The narrator suggests that the “echo-chamber effects, the music, the solemnity” (lines 59-60) are evidence that
- (A) most adults have feelings of great appreciation of the universe
 - (B) most adults would rather not attend planetarium shows
 - (C) contemporary scientists have an inflated view of the importance of their work
 - (D) the show’s promoters do not fully appreciate the true nature of the universe
 - (E) the show’s promoters understand that children are entranced by special effects

S T O P

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.**



SECTION 8

Time — 20 minutes

16 Questions

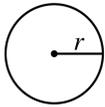
Turn to Section 8 (page 7) of your answer sheet to answer the questions in this section.

Directions: For this section, solve each problem and decide which is the best of the choices given. Fill in the corresponding circle on the answer sheet. You may use any available space for scratchwork.

Notes

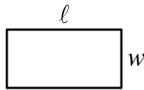
- The use of a calculator is permitted.
- All numbers used are real numbers.
- Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is not drawn to scale. All figures lie in a plane unless otherwise indicated.
- Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which $f(x)$ is a real number.

Reference Information

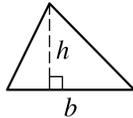


$$A = \pi r^2$$

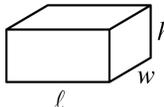
$$C = 2\pi r$$



$$A = \ell w$$



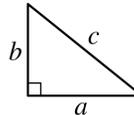
$$A = \frac{1}{2}bh$$



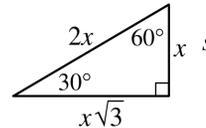
$$V = \ell wh$$



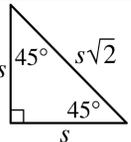
$$V = \pi r^2 h$$



$$c^2 = a^2 + b^2$$



Special Right Triangles



The number of degrees of arc in a circle is 360.

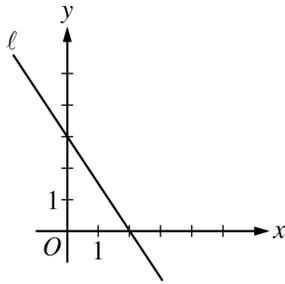
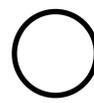
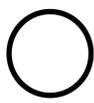
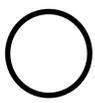
The sum of the measures in degrees of the angles of a triangle is 180.

- If notebooks cost \$2 each and backpacks cost \$32 each, which of the following represents the cost, in dollars, of n notebooks and b backpacks?
 - $16nb$
 - $34nb$
 - $34(n + b)$
 - $2n + 32b$
 - $2(n + 32b)$

- The average (arithmetic mean) of 6, 19, and x is 19. What is the value of x ?
 - 19
 - 25
 - 31
 - 32
 - 57

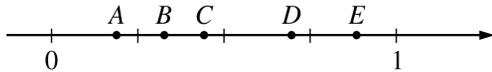
- Ali, Ben, and Carla made a total of 20 sandwiches. Ben made 3 times as many as Ali, and Carla made twice as many as Ben. How many sandwiches did Ali make?
 - Two
 - Four
 - Five
 - Six
 - Ten

- If 0.03 percent of n is 3, what is 3 percent of n ?
 - 900
 - 600
 - 300
 - 0.006
 - 0.003



5. What is an equation of line ℓ in the figure above?

- (A) $y = -\frac{3}{2}x + 2$
 (B) $y = -\frac{3}{2}x + 3$
 (C) $y = -\frac{2}{3}x + 3$
 (D) $y = \frac{2}{3}x + 2$
 (E) $y = \frac{2}{3}x + 3$

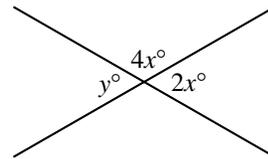


6. If the tick marks on the number line above are equally spaced, which of the lettered points A through E is between $\frac{1}{4}$ and $\frac{3}{8}$?

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

7. If $x^{-1}h = 1$, what does h equal in terms of x ?

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



8. In the figure above, what is the value of y ?

- (A) 40
 (B) 45
 (C) 50
 (D) 60
 (E) 72

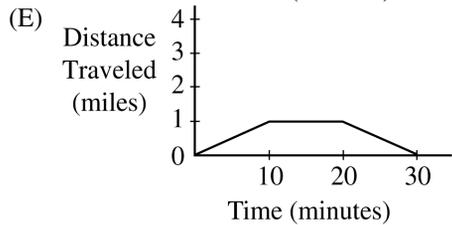
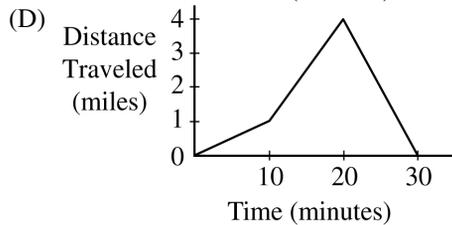
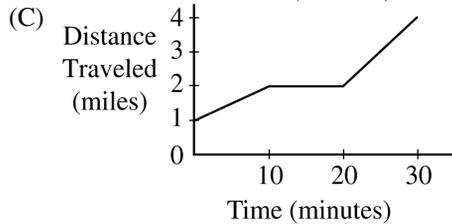
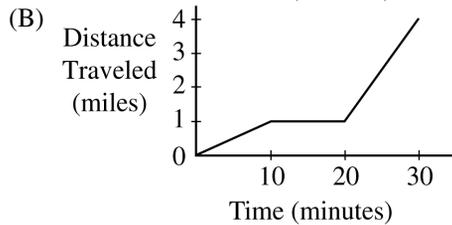
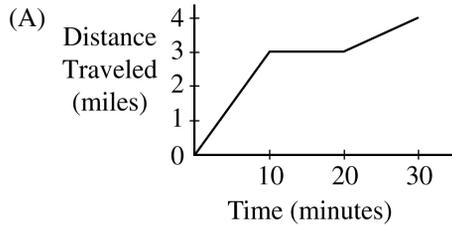
9. If $x^2 + x = 30$, which of the following is a possible value of $x^2 - x$?

- (A) -30
 (B) 10
 (C) 20
 (D) 30
 (E) 870

GO ON TO THE NEXT PAGE

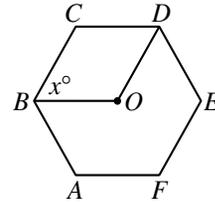


10. Mark began a 4-mile bicycle trip by riding slowly uphill for 1 mile. He rested for 10 minutes and then rode quickly downhill for the rest of the trip. Which of the following graphs could correctly represent his trip?



11. There are 6 red, 6 brown, 6 yellow, and 6 gray scarves packaged in 24 identical, unmarked boxes, 1 scarf per box. What is the least number of boxes that must be selected in order to be sure that among the boxes selected 3 or more contain scarves of the same color?

- (A) 3
(B) 6
(C) 7
(D) 8
(E) 9



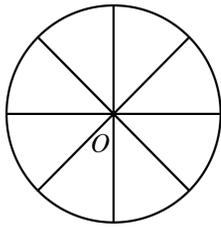
12. In the figure above, $ABCDEF$ is a regular hexagon, and its center is point O . What is the value of x ?

- (A) 80
(B) 60
(C) 40
(D) 30
(E) 20



13. Let the function f be defined by $f(x) = 5x$ for all numbers x . Which of the following is equivalent to $f(p + r)$?

- (A) $\frac{p+r}{5}$
 (B) $5p + r$
 (C) $5p + 5r$
 (D) $10(p + r)$
 (E) $25pr$



14. The circle above has an area of 25π and is divided into 8 congruent regions. What is the perimeter of one of these regions?

- (A) $10 - 25\pi$
 (B) $10 + \frac{5}{8}\pi$
 (C) $10 + \frac{5}{4}\pi$
 (D) $10 + 5\pi$
 (E) $10 + 25\pi$

$$2x - 5y = 8$$

$$4x + ky = 17$$

15. For which of the following values of k will the system of equations above have no solution?

- (A) -10
 (B) -5
 (C) 0
 (D) 5
 (E) 10

RESULTS OF BEANBAG GAME

Number of Throws	Number of People
1	7
2	6
3	6
4	4
5	2

16. In a certain game, each person threw a beanbag at a target until the person missed the target. The table shows the results for the 25 people who played the game. For example, 4 people hit the target on their first 3 throws and missed on their 4th throw. Based on the information in the table, which of the following must be true?

- I. More than half the people hit the target on their first throw.
 II. For all of the throws attempted, more hit the target than missed the target.
 III. No one hit the target 5 times.

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

STOP

If you finish before time is called, you may check your work on this section only.
 Do not turn to any other section in the test.

**SECTION 9**

Time — 20 minutes

19 Questions

Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.**Directions:** For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Example:

Hoping to ----- the dispute, negotiators proposed a compromise that they felt would be ----- to both labor and management.

- (A) enforce . . useful
(B) end . . divisive
(C) overcome . . unattractive
(D) extend . . satisfactory
(E) resolve . . acceptable

(A) (B) (C) (D) ●

- The new vaccine is ----- preventing certain forms of pneumonia and should, therefore, be more widely ----- in order to prevent outbreaks of the disease.

(A) required for . . constrained
(B) unsuccessful in . . distributed
(C) instrumental in . . reconstituted
(D) effective in . . administered
(E) unverified for . . disseminated
- In an effort to ----- the ----- theater, the troupe members contributed thousands of dollars to keep the playhouse operating.

(A) qualify . . obsolete
(B) salvage . . floundering
(C) exacerbate . . defunct
(D) revitalize . . prosperous
(E) commandeer . . lucrative
- In her writings about language, the poet Gloria Anzaldúa celebrates the ----- of English and Spanish dialects spoken by Mexican Americans, arguing that such ----- lends an empowering flexibility to expression.

(A) multiplicity . . variety
(B) proliferation . . moderation
(C) ambivalence . . focus
(D) dearth . . depletion
(E) abridgment . . imitation
- The mountain road was distinctly -----: it twisted back and forth along the contours of the hillside.

(A) panoramic (B) precipitous (C) serpentine
(D) circumscribed (E) retrograde
- At the family reunion Hiroko found her cousin charming and gentle, the ----- of his formerly rude and overbearing self.

(A) remnant (B) antithesis (C) consequence
(D) extremity (E) mainstay
- His conduct at the state dinner was a cavalcade of blunders, one ----- following another until the evening ended.

(A) query (B) gibe (C) gaffe
(D) tryst (E) tribute

GO ON TO THE NEXT PAGE



The two passages below are followed by questions based on their content and on the relationship between the two passages. Answer the questions on the basis of what is stated or implied in the passages and in any introductory material that may be provided.

Questions 7-19 are based on the following passages.

Both passages discuss the issue of the intelligence of dogs. Passage 1 was adapted from a 2001 book on animal intelligence. Passage 2 was written in 2001 by a dog trainer and writer.

Passage 1

Line 5 It was no accident that nineteenth-century naturalist Charles Darwin strove to connect the mentality and emotionality of people with that of dogs, rather than, say, doves or horses. Neither his theory of evolution nor any general understanding of biology demanded that he preferentially underline our similarity to dogs over other species. But politically and emotionally, the choice was inevitable for an English gentleman who had set himself the task of making the idea of evolutionary continuity palatable. Darwin wrote that “dogs possess something very similar to a conscience. They certainly possess some power of self-command. . . . Dogs have long been accepted as the very type of fidelity and obedience.”

Line 10 Darwin was not alone in his beliefs that dogs possess human virtues. The characteristics of loyalty and obedience, coupled with an expressive face and body, can account for why dogs are such popular and valued pets in many cultures. Depending on the breed and the individual, dogs can be noble, charming, affectionate, and reliable. But while all dog owners should rightly appreciate these and other endearing traits in their pets, nothing says that the cleverness of a highly intelligent primate such as a chimpanzee is part of the package. Scientists generally believe the reasoning abilities of chimps to be considerably greater than that of dogs. But many people nonetheless believe that dogs are smarter than chimps precisely because of our familiarity and emotional ties with the dogs that we love. We apply the same secret rules to our fellow humans: the old in-group, out-group story. People in your in-group are those who are similar to you, either because they belong to the same organizations as you, or enjoy the same activities, or, and this is the kicker, because they are simply around more often. Dogs, because of their proximity to their owners, are definitely in. The intensity of our relationship with dogs causes us, quite naturally, to imbue them with high-level mental abilities, whether they have earned those extra intelligence points or not. We like them, so we think well of them.

Passage 2

Line 40 Every dog trainer that I know had the same childhood, a childhood filled with the brilliant, heroic dogs of literature. We read about dogs who regularly traveled thousands of miles to be reunited with owners who somehow misplaced

them, repeatedly saved people from certain death, and continually exhibited a better grasp of strategic problem-solving than the average Ph.D. In the preface to one of his many dog stories, S. P. Meek a bit shamefacedly remarked that in writing of dogs “I endeavored to hold these heroes down to the level of canine intelligence, and to make them, above all, believable. If at times I seem to have made them show supercanine intelligence, it is because my enthusiasm has run away with me.” We forgave him, of course.

Line 50 It was something of a shock, therefore, to discover how the learning theory “experts” believed dogs think and learn. I was told that dogs, unlike chimpanzees, have no real reasoning ability. Dogs don’t think: rather, they learn to avoid the unpleasant (negative reinforcement), seek the pleasant (positive reinforcement), or some combination of the two. To contend otherwise was to be guilty of the sin of anthropomorphizing, the attribution to an animal of motivations and consciousness that only a human being could possess.

Line 60 Yet as a dog trainer, I find myself siding more with the Meeks than I do with the learning theorists: nobody could believe dispassionately in the totality of positive and negative reinforcement after seeing the pure intelligence shining in the face of a border collie intent upon helping a shepherd herd sheep. Dogs do think and reason. Granted, a dog might not be able to run a maze as quickly as a chimp. But a dog outshines any other animal that I know in the ability to work willingly with a human being, to communicate with a puzzling creature who often makes incomprehensible demands. Researchers have increasingly come to view intelligence as a complex collection of mental abilities that cannot be fully captured in any simple way. Dogs are geniuses at being useful, and it is this usefulness that we admire when we praise their intelligence. As Jonica Newby, a specialist in animal-human interaction, writes, “In some ways intelligence is a matter of matching behavior to environment. To compare intelligence in creatures that have evolved differently is a bit like deciding which has hit upon the best mode of travel: the dolphin or the horse.” And it is dogs, not chimps, who possess the most helpful mode of travel for human beings.

7. Unlike the author of Passage 1, the author of Passage 2 develops an argument by relying on
- (A) personal experience
 - (B) scientific observation
 - (C) historical contextualization
 - (D) statistical evidence
 - (E) direct quotation

GO ON TO THE NEXT PAGE 



8. The phrase “It was no accident” (line 1) implies that the author of Passage 1 believes that Darwin
- (A) knew that the resemblance between dogs and humans could not be accounted for by his theory
 - (B) exploited the sympathies of his audience to gain support for his theory
 - (C) considered intelligence to be largely a matter of luck
 - (D) believed that the way previous authors had written about dogs was inaccurate
 - (E) wished to convince the public to celebrate the virtues of dogs
9. In line 13, “type” most nearly means
- (A) category
 - (B) model
 - (C) designation
 - (D) role
 - (E) figure
10. The italics in line 25 most directly emphasize
- (A) a misguided idea that is becoming obsolete
 - (B) a negative view that scientists adopt toward lay people
 - (C) a common criticism of dog owners
 - (D) the controversial nature of an alternative theory
 - (E) the intensity of a conviction based on sentiment
11. In line 29, the author of Passage 1 uses the word “old” to suggest that the “story” is
- (A) familiar
 - (B) historic
 - (C) fictitious
 - (D) tiresome
 - (E) outdated
12. Darwin (lines 1-13, Passage 1) and Meek (lines 45-51, Passage 2) serve as examples of
- (A) writers who had the courage to voice unpopular viewpoints
 - (B) researchers who conducted important studies on animal behavior
 - (C) people who maliciously publicized misleading information about dogs
 - (D) individuals whose writings reflect an idealized view of dog behavior
 - (E) scientists who were authorities on the issue of animal intelligence
13. In line 53, the author of Passage 2 uses quotation marks to
- (A) express anger about a prevailing belief
 - (B) demonstrate respect for a certain group of scientists
 - (C) indicate uncertainty about the precise usage of a word
 - (D) cite a term used in an unusual context
 - (E) cast doubt on the aptness of a description
14. The “experts” (line 53) would most likely argue that which of the following is guilty of the “sin” mentioned in line 58 ?
- (A) A veterinarian who is unwilling to treat a sick animal
 - (B) A cat owner who believes his cat misses its siblings
 - (C) A dog owner who is unwilling to punish her dog for misbehaving
 - (D) A zoologist who places the interests of people before those of animals
 - (E) A horse trainer who fails to recognize that his horse is hungry
15. Both the author of Passage 1 and the “experts” mentioned in line 53 of Passage 2 directly support the idea that
- (A) writers of dog stories intentionally distort the truth for dramatic purposes
 - (B) comparing the intelligence of dogs to that of chimps is a pointless enterprise
 - (C) many people have an excessive emotional attachment to their dogs
 - (D) dogs are less intelligent than many people believe
 - (E) few people are familiar with learning theory as it applies to dogs
16. Based on lines 63-67 (“nobody . . . sheep”), the author of Passage 2 would most likely appear to the author of Passage 1 as
- (A) a neutral observer of animal behavior
 - (B) well informed concerning research into animal intelligence
 - (C) having a deep fondness for border collies and therefore overestimating them
 - (D) having little respect for traditional scientific research
 - (E) having a narrow understanding of what constitutes intelligence



17. In Passage 2, lines 67-68 (“Granted . . . chimp”) principally serve to
- (A) acknowledge a flaw in a prevalent theory
 - (B) digress from a primary claim
 - (C) evoke an air of mystery
 - (D) dismiss a scientific hypothesis as unfounded
 - (E) anticipate a potential objection to an argument
18. The authors of both passages mention chimpanzees in order to
- (A) suggest that the public has a distorted view of chimpanzee intelligence
 - (B) compare the emotions of primates to those of dogs
 - (C) justify the beliefs of the public regarding the intelligence of certain animals
 - (D) criticize an eccentric scientific claim about animal intelligence
 - (E) provide an example of an animal considered to be highly intelligent
19. How do the authors of the two passages differ in their assumptions about animal intelligence?
- (A) The author of Passage 1 implies that intelligence is a single entity, whereas the author of Passage 2 suggests that intelligence can be demonstrated in many distinct ways.
 - (B) The author of Passage 1 believes that no animal can be considered truly intelligent, whereas the author of Passage 2 celebrates the reasoning power of all animals.
 - (C) The author of Passage 1 believes that intelligence can be measured, whereas the author of Passage 2 believes that such quantification would be unethical.
 - (D) The author of Passage 1 suggests that intelligence is innate, whereas the author of Passage 2 argues that it is acquired.
 - (E) The author of Passage 1 considers intelligence to be developed over time, whereas the author of Passage 2 shows that it is largely static.

STOP

**If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.**



SECTION 10

Time — 10 minutes

14 Questions

Turn to Section 10 (page 7) of your answer sheet to answer the questions in this section.

Directions: For each question in this section, select the best answer from among the choices given and fill in the corresponding circle on the answer sheet.

The following sentences test correctness and effectiveness of expression. Part of each sentence or the entire sentence is underlined; beneath each sentence are five ways of phrasing the underlined material. Choice A repeats the original phrasing; the other four choices are different. If you think the original phrasing produces a better sentence than any of the alternatives, select choice A; if not, select one of the other choices.

In making your selection, follow the requirements of standard written English; that is, pay attention to grammar, choice of words, sentence construction, and punctuation. Your selection should result in the most effective sentence—clear and precise, without awkwardness or ambiguity.

EXAMPLE:

Laura Ingalls Wilder published her first book and she was sixty-five years old then.

- (A) and she was sixty-five years old then
- (B) when she was sixty-five
- (C) at age sixty-five years old
- (D) upon the reaching of sixty-five years
- (E) at the time when she was sixty-five

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

1. The sales assistant arranged the gems on the counter, he proceeded to tell us about the origins of each stone.
 - (A) The sales assistant arranged the gems on the counter, he
 - (B) The gems, which were arranged on the counter by the sales assistant, who
 - (C) The gems were first arranged on the counter by the sales assistant, then
 - (D) After arranging the gems on the counter, the sales assistant
 - (E) The sales assistant, having arranged the gems on the counter, he
2. A whistle-blower is when an employee reports fraud or mismanagement in a company.
 - (A) when an employee reports fraud or mismanagement
 - (B) an employee who reports fraud or mismanagement
 - (C) reporting by an employee of fraud or mismanagement
 - (D) if an employee reports fraud or mismanagement
 - (E) fraud or mismanagement being reported by an employee
3. After Eliza, the heroine of Shaw's *Pygmalion*, is transformed from a flower girl into a gentlewoman, she realizes that one's social class matters less than your character.
 - (A) she realizes that one's social class matters less than your
 - (B) she realizes that one's social class matters less than one's
 - (C) then realizing that one's social class matters less than their
 - (D) having realized how social class matters less than
 - (E) there is her realization about how social class matters less than
4. Knowing the roots of words that are hard to spell helps students to become a better speller.
 - (A) helps students to become a better speller
 - (B) is helpful to students who want to be a better speller
 - (C) helps students to become better spellers
 - (D) is helpful to students in becoming a better speller
 - (E) helps a student be better spellers

GO ON TO THE NEXT PAGE 



5. Most experts believe that young children's not being given physical affection, this interferes with their normal development.
- (A) young children's not being given physical affection, this interferes
 (B) for young children who have had physical affection withheld from them, it interferes
 (C) the failure at giving young children physical affection would interfere
 (D) when withholding physical affection from young children, it interferes
 (E) the withholding of physical affection from young children interferes
6. Electronic bulletin boards, combining the convenience of a telephone with the massive information storage capacity of a computer, present messages on diverse subjects as astronomy, artificial intelligence, and skydiving.
- (A) diverse subjects as
 (B) diverse subjects that are
 (C) subjects of such diversity as
 (D) subjects as diverse as
 (E) a subject as diverse as
7. Free from British rule after the American Revolution, a strong central government was an idea that many of the representatives attending the Constitutional Convention were wary of.
- (A) a strong central government was an idea that many of the representatives attending the Constitutional Convention were wary of
 (B) the idea of a strong central government made wary many of the representatives attending the Constitutional Convention
 (C) many of the representatives attending the Constitutional Convention were wary of a strong central government
 (D) many representatives at the Constitutional Convention felt wary toward a strong central government
 (E) many representatives at the Constitutional Convention, wary of a strong central government
8. Being cleaner and longer-burning compared with bituminous coal, anthracite was the first coal widely used in the United States for both domestic and industrial purposes.
- (A) Being cleaner and longer-burning compared with
 (B) Both cleaner and more longer-burning compared to
 (C) Cleaner and longer-burning than
 (D) By burning longer and more clean than
 (E) Cleaner as well as longer-burning, unlike
9. At graduation, the speaker assured us that our many courses in the liberal arts had prepared us equally well for the challenges of working and further study.
- (A) had prepared us equally well for the challenges of working and further study
 (B) had prepared us equally well for the challenges of work and of further study
 (C) has supplied the preparation for challenging work along with further study
 (D) leaves us prepared for the challenges of work and further study both
 (E) were the preparation for making the challenges of work or further study easier
10. Modern bluegrass songs, telling of love and despair and celebrating mountain beauty, reflect the genre's rural origins.
- (A) Modern bluegrass songs, telling of love and despair and celebrating mountain beauty,
 (B) Modern bluegrass songs through their telling of love and despair and celebrating mountain beauty,
 (C) Because modern bluegrass songs tell of love and despair and also celebrating mountain beauty, they
 (D) With modern bluegrass songs that tell of love and despair and celebrate mountain beauty, they
 (E) Telling of love and despair, modern bluegrass songs celebrating mountain beauty, and they also



11. The fruit fly is often used to study genetic mechanisms, because it reproduces rapidly scientists can observe the effects of experiments on several generations.
- (A) mechanisms, because it reproduces rapidly
 (B) mechanisms, since it reproduces rapidly,
 (C) mechanisms, since, with its rapid reproduction,
 (D) mechanisms; because it reproduces rapidly,
 (E) mechanisms; then rapid reproduction allows
12. Benin was the first sub-Saharan African country to experience a “civilian coup”: they were a regime that was dominated by the armed forces and obliged by citizens to implement democratic reforms.
- (A) they were a regime that was dominated by the armed forces and obliged by
 (B) they had been a regime that was dominated by the armed forces, when they were obliged to
 (C) it had a regime, armed forces dominating, but then were obliged to
 (D) armed forces dominated them until this regime were obliged by
 (E) a regime, dominated by the armed forces, was obliged by
13. This legend about Admiral Nelson, like other naval heroes, are based only partially on fact.
- (A) like other naval heroes, are
 (B) like those of other naval heroes, are
 (C) like other naval heroes, is
 (D) like legends about other naval heroes, are
 (E) like legends about other naval heroes, is
14. Bats and mosquitoes come out at twilight, and the bats would look for mosquitoes and the mosquitoes would look for people.
- (A) and the bats would look for mosquitoes and the mosquitoes would look
 (B) and the bats come to look for mosquitoes while the mosquitoes look
 (C) the bats look for mosquitoes and the mosquitoes are looking
 (D) the bats looking for mosquitoes while mosquitoes would look
 (E) the bats to look for mosquitoes and the mosquitoes to look

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

Correct Answers and Difficulty Levels for the SAT Practice Test

Math

Section 2

1	A	E	11	E	M
2	B	E	12	C	M
3	E	E	13	E	M
4	E	E	14	D	M
5	B	E	15	B	M
6	D	E	16	B	M
7	D	M	17	C	M
8	A	E	18	D	H
9	B	E	19	E	H
10	A	M	20	C	H

Number correct

Number incorrect

Section 6

1	A	E
2	D	E
3	D	E
4	B	M
5	E	M
6	C	M
7	C	M
8	C	H

Number correct

Number incorrect

Student-Produced Response Questions

9	7.5 or 15/2	E
10	9	M
11	22	E
12	3, 6, 9 or 12	M
13	96	M
14	8	M
15	1024	M
16	109	H
17	10	H
18	49/5 or 9.8	H

Number correct

Section 8

1	D	E	11	E	M
2	D	E	12	B	M
3	A	E	13	C	E
4	C	E	14	C	M
5	B	M	15	A	H
6	B	M	16	E	H
7	D	M			
8	D	M			
9	C	M			
10	B	M			

Number correct

Number incorrect

Critical Reading

Section 4

1	D	E	13	D	M
2	E	M	14	A	M
3	C	M	15	B	M
4	B	M	16	C	E
5	A	M	17	B	E
6	A	M	18	B	M
7	E	H	19	E	E
8	C	H	20	A	M
9	E	E	21	C	H
10	D	M	22	D	M
11	B	H	23	A	M
12	D	M	24	A	M

Number correct

Number incorrect

Critical Reading

Section 7

1	B	E	13	C	M
2	D	E	14	C	H
3	B	M	15	A	E
4	C	M	16	A	M
5	A	H	17	B	M
6	B	M	18	E	M
7	A	M	19	C	M
8	E	M	20	B	M
9	C	M	21	C	M
10	E	M	22	A	E
11	D	H	23	E	M
12	E	M	24	D	M

Number correct

Number incorrect

Section 9

1	D	E	11	A	M
2	B	M	12	D	M
3	A	M	13	E	M
4	C	M	14	B	M
5	B	H	15	D	H
6	C	H	16	C	H
7	A	M	17	E	M
8	B	H	18	E	M
9	B	M	19	A	M
10	E	M			

Number correct

Number incorrect

Writing

Section 1

Essay Score

Section 5

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

Number correct

Number incorrect

Section 10

1	D	M
2	B	M
3	B	M
4	C	M
5	E	M
6	D	M
7	C	H
8	C	M
9	B	H
10	A	H
11	D	H
12	E	H
13	E	H
14	E	H

Number correct

Number incorrect

Scoring the SAT Practice Test

Check your responses with the correct answers on page 83. Fill in the blanks below and do the calculations to get your math, critical reading, and writing raw scores. Use the tables on pages 85–86 to find your scaled scores.

Get Your Math Score

How many math questions did you get **right**?

Section 2: Questions 1–20 _____

Section 6: Questions 1–18 + _____

Section 8: Questions 1–16 + _____

Total = _____(A)

How many multiple-choice math questions did you get **wrong**?

Section 2: Questions 1–20 _____

Section 6: Questions 1–8 + _____

Section 8: Questions 1–16 + _____

Total = _____

$\times 0.25 =$ _____(B)

A - B = _____

Math Raw Score

Round Math raw score to the nearest whole number.

Use the table on page 85 to find your Math scaled score.

Get Your Critical Reading Score

How many critical reading questions did you get **right**?

Section 4: Questions 1–24 _____

Section 7: Questions 1–24 + _____

Section 9: Questions 1–19 + _____

Total = _____(A)

How many critical reading questions did you get **wrong**?

Section 4: Questions 1–24 _____

Section 7: Questions 1–24 + _____

Section 9: Questions 1–19 + _____

Total = _____

$\times 0.25 =$ _____(B)

A - B = _____

Critical Reading Raw Score

Round Critical Reading raw score to the nearest whole number.

Use the table on page 85 to find your Critical Reading scaled score.

Get Your Writing Score

How many multiple-choice (MC) writing questions did you get **right**?

Section 5: Questions 1–35 _____

Section 10: Questions 1–14 + _____

Total = _____(A)

How many multiple-choice writing questions did you get **wrong**?

Section 5: Questions 1–35 _____

Section 10: Questions 1–14 + _____

Total = _____

$\times 0.25 =$ _____(B)

A - B = _____

Writing MC Raw Score

Round Writing MC raw score to the nearest whole number.

Use the table on page 85 to find your Writing MC scaled score.

Estimate your essay score using the Essay Scoring Guide on page 35.

Use the table on page 86, your writing multiple-choice raw score, and your essay score to find your Writing composite scaled score.

SAT Score Conversion Table

Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Multiple-Choice Scaled Score*	Raw Score	Critical Reading Scaled Score	Math Scaled Score	Writing Multiple-Choice Scaled Score
67	800			31	510	550	60
66	800			30	510	540	58
65	790			29	500	530	57
64	770			28	490	520	56
63	750			27	490	520	55
62	740			26	480	510	54
61	730			25	480	500	53
60	720			24	470	490	52
59	700			23	460	480	51
58	690			22	460	480	50
57	690			21	450	470	49
56	680			20	440	460	48
55	670			19	440	450	47
54	660	800		18	430	450	46
53	650	790		17	420	440	45
52	650	760		16	420	430	44
51	640	740		15	410	420	44
50	630	720		14	400	410	43
49	620	710	80	13	400	410	42
48	620	700	80	12	390	400	41
47	610	680	80	11	380	390	40
46	600	670	79	10	370	380	39
45	600	660	78	9	360	370	38
44	590	650	76	8	350	360	38
43	590	640	74	7	340	350	37
42	580	630	73	6	330	340	36
41	570	630	71	5	320	330	35
40	570	620	70	4	310	320	34
39	560	610	69	3	300	310	32
38	550	600	67	2	280	290	31
37	550	590	66	1	270	280	30
36	540	580	65	0	250	260	28
35	540	580	64	-1	230	240	27
34	530	570	63	-2	210	220	25
33	520	560	62	-3	200	200	23
32	520	550	61	-4	200	200	20
				and below			

This table is for use only with the test in this booklet.

* The Writing multiple-choice score is reported on a 20-80 scale. Use the table on page 86 for the writing composite scaled score.

SAT Score Conversion Table for Writing Composite

Writing Multiple-Choice Raw Score	Essay Raw Score					
	1	2	3	4	5	6
49	720	730	760	800	800	800
48	720	730	760	800	800	800
47	700	720	750	780	800	800
46	690	700	730	770	800	800
45	670	690	720	750	780	800
44	660	670	700	740	770	800
43	640	660	690	720	750	780
42	630	650	680	710	740	770
41	620	640	660	700	730	760
40	610	620	650	690	720	750
39	600	610	640	680	710	740
38	580	600	630	670	700	730
37	570	590	620	660	690	720
36	560	580	610	650	680	710
35	560	570	600	640	670	700
34	550	560	590	630	660	690
33	540	550	580	620	650	680
32	530	550	570	610	640	670
31	520	540	560	600	630	660
30	510	530	560	590	620	650
29	500	520	550	580	610	640
28	490	510	540	570	600	630
27	480	500	530	560	590	620
26	470	490	520	550	590	610
25	460	480	510	540	580	610
24	460	470	500	540	570	600
23	450	470	490	530	560	590
22	440	460	480	520	550	580
21	430	450	480	510	540	570
20	420	440	470	500	530	560
19	410	430	460	490	530	560
18	410	420	450	490	520	550
17	400	420	440	480	510	540
16	390	410	440	470	500	530
15	380	400	430	460	500	530
14	380	390	420	460	490	520
13	370	390	420	450	480	510
12	360	380	410	440	470	500
11	360	370	400	440	470	500
10	350	370	390	430	460	490
9	340	360	390	420	450	480
8	330	350	380	410	450	470
7	330	340	370	410	440	470
6	320	340	360	400	430	460
5	310	330	360	390	420	450
4	300	320	350	380	410	440
3	290	310	340	370	400	430
2	280	300	330	360	390	420
1	270	290	320	350	380	410
0	260	280	300	340	370	400
-1	240	260	290	320	360	380
-2	230	250	280	310	340	370
-3	210	230	250	290	320	350
-4	200	200	230	270	300	330
-5 and below	200	200	210	240	270	300

This table is for use only with the test in this booklet.

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SAT Program Test Calendar 2004-2005

Test Dates	OCT 9	NOV 6	DEC 4	JAN 22	MAR 12	MAY 7	JUN 4
Registration Deadlines					New SAT	New SAT	New SAT
Early (International)	N/A	SEP 7	OCT 6	NOV 24	N/A	MAR 9	APR 6
Regular	SEP 7	OCT 1	OCT 29	DEC 20	FEB 7	MAR 25	APR 29
Late (U.S. only)	SEP 15	OCT 13	NOV 10	DEC 29	FEB 16	APR 6	MAY 11
SAT Reasoning Test	✓	✓	✓	✓	✓	✓	✓
SAT Subject Tests							
Writing	✓	✓	✓	✓			
Literature	✓	✓	✓	✓		✓	✓
United States (U.S.) History	✓	✓	✓	✓		✓	✓
World History			✓				✓
Math Level 1	✓	✓	✓	✓		✓	✓
Math Level 2	✓	✓	✓	✓		✓	✓
Biology E/M (Ecological/Molecular)	✓	✓	✓	✓		✓	✓
Chemistry	✓	✓	✓	✓		✓	✓
Physics	✓	✓	✓	✓		✓	✓
Languages: Reading Only							
French	✓		✓	✓		✓	✓
German							✓
Modern Hebrew							✓
Italian			✓				
Latin			✓				✓
Spanish	✓		✓	✓		✓	✓
Languages: Reading & Listening							
Chinese		✓					
French		✓					
German		✓					
Japanese		✓					
Korean		✓					
Spanish		✓					
ELPT™		✓		✓			
Scores Available							
Online/Phone	OCT 22	NOV 19	DEC 17	FEB 4	APR 11	MAY 23	JUNE 20
Mailed	OCT 30	DEC 1	DEC 30	FEB 12	APR 18	JUNE 3	JULY 1

- Sunday test dates immediately follow each Saturday test date.
- Deadlines are the same for all methods of registration (mail must be POSTMARKED).
- Register early and avoid the last-minute rush. Late registration is available to students in the U.S., Puerto Rico, and U.S. territories only.

- You can take either the SAT OR up to three Subject Tests during a given test administration. When you register, indicate each Subject Test you intend to take.
- Register separately for each test administration.
- You MUST register by the regular registration deadline if you want to take a Language Test with Listening.
- Listening tests are offered only in November. You may take ONLY ONE listening test at that time.

- Scores are available by phone and at www.collegeboard.com about 2 weeks after the test. Most score reports are mailed about 3 weeks after the test. Sometimes scores may take longer to report.
- The Question-and-Answer Service is only available for the October 9, January 22, and March 12 test dates. The Student Answer Service is available for all other test dates.

