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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

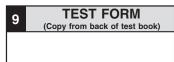
- Carefully mark only one answer for each question.
- Make sure each mark is dark and completely fills the circle.
- Do not make any stray marks on your answer sheet.
- If you erase, do so completely. Incomplete erasures may be scored as intended answers.
- Use only the answer spaces that correspond 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, 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.
- Off-topic essays, blank essays, and essays written in ink 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 ETS.

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.



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SAT Reasoning Test[™]

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Use a No. 2 pencil on **ALL sections of the answer sheet, including the essay.** Be sure each mark is dark and completely fills the intended circle. Completely erase any errors or stray marks.

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SECTION

O I prefer NOT to grant the College Board the right to use, reproduce, or publish my essay for any purpose beyond the assessment of my writing skills, even though my name will not be used in any way in conjunction with my essay. I understand that I am free to mark this circle with no effect on my score.

IMPORTANT: Use a No. 2 PENCIL. Do NOT write outside the border!

Words written outside the essay box or written in ink **WILL NOT APPEAR** in the copy sent to be scored, and your score will be affected.

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Tài liệu chỉ xem được một số trang đầu. Vui lòng download file gốc để xem toàn bộ các trang Continuation of ESSAY Section 1 from previous page. Write below only if you need more space. IMPORTANT: DO NOT START on this page—if you do, your essay may appear blank and your score may be affected.

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CAUTION Use the answer spaces in the grids below for SECTION 6 or SECTION 7 only if you are told to do so in your test book.

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CERTIFICATION STATEMENT	
Copy the statement below (do not print) and sign your name as you would a	an official document.
I hereby agree to the conditions set forth online at www.collegeboard.com a person whose name and address appear on this answer sheet.	and/or in the SAT Registration Booklet and certify that I am the
By signing below, I agree not to share any specific test questions or essay tincluding, but not limited to: email, text messages, or use of the Internet.	opics with anyone after I test by any form of communication,
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SPECIAL QUESTIONS

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NOTES ONLY

Write essay on answer sheet!



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



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.

Important Reminders:

- A pencil is required for the essay. An essay written in ink will receive a score of zero.
- Do not write your essay in your test book. You will receive credit only for what you write on your answer sheet.
- An off-topic essay will receive a score of zero.

You have twenty-five minutes to write an essay on the topic assigned below.

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

Given the importance of human creativity, one would think it should have a high priority among our concerns. But if we look at the reality, we see a different picture. Basic scientific research is minimized in favor of immediate practical applications. The arts are increasingly seen as dispensable luxuries. Yet as competition heats up around the globe, exactly the opposite strategy is needed.

Adapted from Mihaly Csikszentmihalyi, Creativity: Flow and the Psychology of Discovery and Invention

Assignment:

Is creativity needed more than ever in the world today? 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.

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 18 Questions

Turn to Section 2 (page 4) 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.

- 1. The use of a calculator is permitted.
- 2. All numbers used are real numbers.

Notes

- 3. 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.
- 4. 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













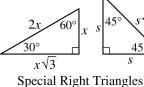
 $V = \ell wh$



 $V = \pi r^2 h$



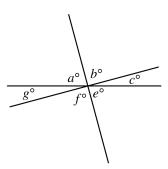
 $c^2 = a^2 + b^2$



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 4(t + u) + 3 = 19, then t + u =
 - (A) 3
 - (B) 4
 - (C) 5
 - (D) 6
 - (E) 7



Note: Figure not drawn to scale.

- **2.** In the figure above, three lines intersect at a point. If f = 85 and c = 25, what is the value of a?
 - (A) 60
 - (B) 65
 - (C) 70
 - (D) 75
 - (E) 85

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- **3.** If Marisa drove *n* miles in *t* hours, which of the following represents her average speed, in miles per hour?
 - (A) $\frac{n}{t}$
 - (B) $\frac{t}{n}$
 - (C) $\frac{1}{nt}$
 - (D) *nt*
 - (E) n^2t

- **4.** If *a* is an odd integer and *b* is an even integer, which of the following is an odd integer?
 - (A) 3b
 - (B) a + 3
 - (C) 2(a + b)
 - (D) a + 2b
 - (E) 2a + b

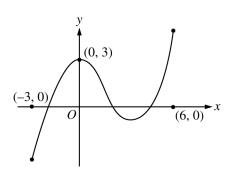
- 5. In the coordinate plane, the points F(-2, 1), G(1, 4), and H(4, 1) lie on a circle with center P. What are the coordinates of point P?
 - (A) (0, 0)
 - (B) (1, 1)
 - (C) (1, 2)
 - (D) (1, -2)
 - (E) (2.5, 2.5)



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2



- **6.** The graph of y = f(x) is shown above. If $-3 \le x \le 6$, for how many values of x does f(x) = 2?
 - (A) None
 - (B) One
 - (C) Two
 - (D) Three
 - (E) More than three

- 7. If the average (arithmetic mean) of t and t + 2 is x and if the average of t and t 2 is y, what is the average of x and y?
 - (A) 1
 - (B) $\frac{t}{2}$
 - (C) *t*
 - (D) $t + \frac{1}{2}$
 - (E) 2t

- **8.** For all numbers x and y, let $x \triangle y$ be defined as $x \triangle y = x^2 + xy + y^2$. What is the value of $(3\triangle 1)\triangle 1$?
 - (A) 5
 - (B) 13
 - (C) 27
 - (D) 170 (E) 183

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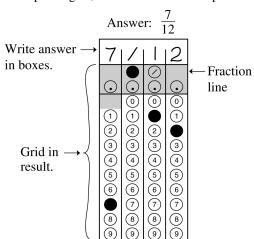
point

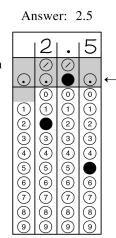


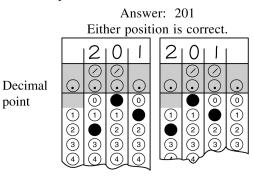


Directions: For Student-Produced Response questions 9-18, use the grids at the bottom of the answer sheet page on which you have answered questions 1-8.

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.







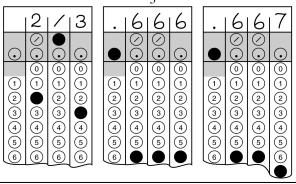
Note: You may start your answers in any column, space permitting. Columns not needed should be left blank.

- Mark no more than one circle in any column.
- Because the answer sheet will be machinescored, 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 $3 \mid 1 \mid 1/2$ 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:



- **9.** Morgan's plant grew from 42 centimeters to 57 centimeters in a year. Linda's plant, which was 59 centimeters at the beginning of the year, grew twice as many centimeters as Morgan's plant did during the same year. How tall, in centimeters, was Linda's plant at the end of the year?
- **10.** Since the beginning of 1990, the number of squirrels in a certain wooded area has tripled during every 3-year period of time. If there were 5,400 squirrels in the wooded area at the beginning of 1999, how many squirrels were in the wooded area at the beginning of 1990?

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11. In the figure above, triangles \overline{ABC} and \overline{CDE} are equilateral and line segment \overline{AE} has length 25. What is the sum of the perimeters of the two triangles?

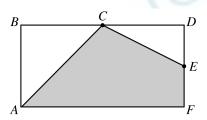


13. For the system of equations above, if $x \ne 0$, what is the value of p?

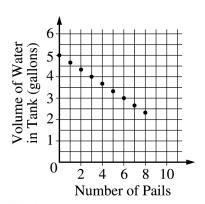
12. Marbles are to be removed from a jar that contains 12 red marbles and 12 black marbles. What is the least number of marbles that could be removed so that the ratio of red marbles to black marbles left in the jar will be 4 to 3?

14. If |-2x+1| < 1, what is one possible value of x?

15. For what positive number is the square root of the number the same as the number divided by 40 ?



16. In rectangle ABDF above, C and E are midpoints of sides \overline{BD} and \overline{DF} , respectively. What fraction of the area of the rectangle is shaded?



17. The graph above shows the amount of water remaining in a tank each time a pail was used to remove x gallons of water. If 5 gallons were in the tank originally and $2\frac{1}{3}$ gallons remained after the last pail containing x gallons was removed, what is the value of x?

18. If $0 \le x \le y$ and $(x + y)^2 - (x - y)^2 \ge 25$, what is the <u>least</u> possible value of y?

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.



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3



3

SECTION 3

Time — 25 minutes 35 Questions

Turn to Section 3 (page 4) 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



- 1. The poet Claude McKay was a native of Jamaica who spent most of his life in the United States but writing some of his poems in the Jamaican dialect.
 - (A) The poet Claude McKay was a native of Jamaica who spent most of his life in the United States but writing
 - (B) Being that he was a Jamaican who spent most of his life in the United States, the poet Claude McKay writing
 - (C) Although a native of Jamaica, the poet Claude McKay spent most of his life in the United States, he wrote
 - (D) Although the poet Claude McKay spent most of his life in the United States, he was a native of Jamaica and wrote
 - (E) Because he was a native of Jamaica who spent most of his life in the United States, the poet Claude McKay writing

- **2.** Many ancient Eastern rulers favored drinking vessels made of celadon porcelain <u>because of supposedly revealing the presence of poison</u> by cracking.
 - (A) because of supposedly revealing the presence of poison
 - (B) for being supposed that it would reveal the presence of poison
 - (C) because of being supposed to reveal poison in it
 - (D) for it was supposed to reveal that there is poison
 - (E) because it was supposed to reveal the presence of poison
- **3.** John believes that plants respond to human <u>attention</u>, <u>which causes his talking</u> to his African violets every night.
 - (A) attention, which causes his talking
 - (B) attention and talking is what is done
 - (C) attention and his talks
 - (D) attention; for this reason has been his talking
 - (E) attention; he therefore talks
- **4.** All the demands on soprano Kathleen Battle for operatic performances, solo concerts, and special guest appearances, tempting her to sing too often and straining her voice.
 - (A) appearances, tempting her to sing too often and straining
 - (B) appearances not only tempt her to sing too often plus they strain
 - (C) appearances tempts her not only into singing too often but then she strains
 - (D) appearances, tempting her into singing too often and she therefore strains
 - (E) appearances tempt her to sing too often and strain







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3

- **5.** One reason that an insect can walk on walls while a human cannot is that the mass of its tiny body is <u>far</u> <u>lower than humans</u>.
 - (A) far lower than humans
 - (B) far lower than that of a human's body
 - (C) lower by far than humans
 - (D) far lower than a human
 - (E) far lower than is a human's body
- **6.** In the 1980's, the median price of a house more than doubled, generally outdistancing the rate of inflation.
 - (A) generally outdistancing the rate of inflation
 - (B) generally this outdistanced the rate of inflation
 - (C) and the result was the general outdistancing of inflation
 - (D) the general rate of inflation was thus outdistanced
 - (E) thus generally inflation had been outdistanced
- 7. In the nineteenth century, reproductions of cathedrals or castles made entirely of ice was often a popular feature in North American winter carnivals.
 - (A) was often a popular feature
 - (B) often were popular features
 - (C) often was featured popularly
 - (D) often being popular features
 - (E) have been featured popularly
- **8.** A fine orchestral performance will exhibit the skills of the musicians, their abilities to work as an ensemble, and <u>how he or she responds</u> to the conductor.
 - (A) how he or she responds
 - (B) how to respond
 - (C) their responding
 - (D) their responses
 - (E) they respond

- **9.** The African tsetse fly does not need a <u>brain</u>, <u>everything</u> it has to do in life is programmed into its nervous system.
 - (A) brain, everything
 - (B) brain due to everything which
 - (C) brain, for everything
 - (D) brain; since, everything
 - (E) brain whereas everything
- **10.** She was concerned about how Hank would react to the incident, but <u>in searching his face</u>, he did not seem to be at all embarrassed or troubled.
 - (A) in searching his face, he did not seem to be
 - (B) by searching his face, it showed that he was not
 - (C) a search of his face showed that he seemed not
 - (D) searching his face, he did not seem to be
 - (E) his face being searched showed that he was not
- **11.** Explaining modern art is impossible, partly because of its complexity but largely because of it rapidly changing.
 - (A) of it rapidly changing
 - (B) it makes rapid changes
 - (C) of the rapidity with which it changes
 - (D) changing it is rapid
 - (E) it changes so rapid

