

Form Codes AEQW, BWQW, CFQW

SAT Reasoning Test™

Question-and-Answer Service
October 2007 Administration

INSIDE:

- Test questions and correct answers
- The difficulty level for each question
- Your essay prompt and all other essay prompts administered on your test day
- Instructions for scoring your test
- Suggestions for using this report to understand your strengths and weaknesses

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ESSAY

Time — 25 minutes

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.
- If your essay does not reflect your original and individual work, your test scores may be canceled.

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.

A person does not simply "receive" his or her identity. Identity is much more than the name or features one is born with. True identity is something people must create for themselves by making choices that are significant and that require a courageous commitment in the face of challenges. Identity means having ideas and values that one lives by.

Adapted from Thomas Merton, *Contemplation in a World of Action*

Assignment: Is identity something people are born with or given, or is it something people create for themselves? 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.

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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.

We value uniqueness and originality, but it seems that everywhere we turn, we are surrounded by ideas and things that are copies or even copies of copies. Writers, artists, and musicians seek new ideas for paintings, books, songs, and movies, but many sadly realize, "It's been done." The same is true for scientists, scholars, and businesspeople. Everyone wants to create something new, but at best we can hope only to repeat or imitate what has already been done.

Assignment: Can people ever be truly original? 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.

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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.

All people who have achieved greatness in something knew what they excelled at. These people identified the skills that made them special—good judgment, or courage, or a special artistic or literary talent—and focused on developing these skills. Yet most people achieve superiority in nothing because they fail to identify and develop their greatest attribute.

Adapted from Baltasar Gracián y Morales, *The Art of Worldly Wisdom*

Assignment: Do people achieve greatness only by finding out what they are especially good at and developing that attribute above all else? 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.

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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.

Having many admirers is one way to become a celebrity, but it is not the way to become a hero. Heroes are self-made. Yet in our daily lives we see no difference between “celebrities” and “heroes.” For this reason, we deprive ourselves of real role models. We should admire heroes—people who are famous because they are great—but not celebrities—people who simply seem great because they are famous.

Adapted from Daniel Boorstin, *The Image: A Guide to Pseudo-Events in America*.

Assignment: Should we admire heroes but not celebrities? 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.
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SECTION 3

Time — 25 minutes

20 Questions

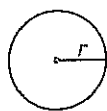
Turn to Section 3 (page 4) of your answer sheet to answer the questions in this section.

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

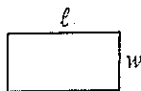
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is 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

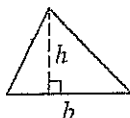


$$A = \pi r^2$$

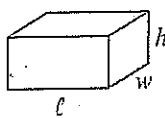
$$C = 2\pi r$$



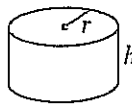
$$A = \ell w$$



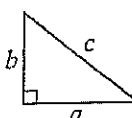
$$A = \frac{1}{2}bh$$



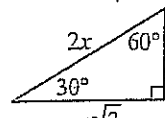
$$V = \ell wh$$



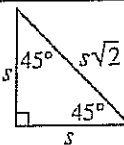
$$V = \pi r^2 h$$



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



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 $n = 3$ and $2n + 1 = b$, what is the value of b ?

- (A) 3
(B) 4
(C) 5
(D) 6
(E) 7

2. Cliff earns \$15 per hour for each hour that he works as a television salesperson plus an additional \$10 for each television that he sells. Which of the following represents the amount Cliff earns, in dollars, if he sells n televisions while working h hours?

- (A) $10h + 15n$
(B) $15h + 10n$
(C) $\left(\frac{10 + 15}{2}\right)(h + n)$
(D) $25(h + n)$
(E) $25hn$

GO ON TO THE NEXT PAGE

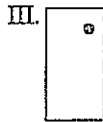
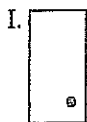
1, -4, 2, -3, -7, -6

3. If each number in the list above were to be multiplied by -3, a new list would be formed consisting of the six products. How many of the six numbers on the new list would be negative numbers?

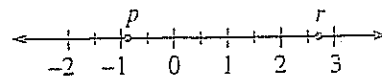
(A) Two
(B) Three
(C) Four
(D) Five
(E) Six



4. The rectangular card pictured above has a black dot on one side, and the other side is blank. Which of the figures below could be obtained by rotating the card?

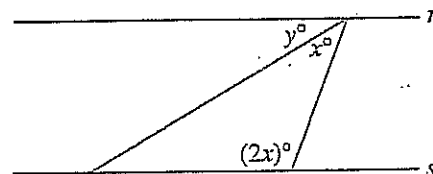


(A) I only
(B) II only
(C) I and II only
(D) I and III only
(E) I, II, and III



5. On the number line above, which of the following is the best approximation of $|p - r|$?

(A) 2
(B) 3
(C) 3.5
(D) 4
(E) 4.5



Note: Figure not drawn to scale.

6. In the figure above, line r is parallel to line s . If $y = 18$, what is the value of x ?

(A) 53
(B) 54
(C) 55
(D) 56
(E) 57

7. If 90 percent of Jaime's compact discs cost \$15 each and if 10 percent of her compact discs cost \$12 each, what is the average (arithmetic mean) cost per disc?

(A) \$13.50
(B) \$13.75
(C) \$14.00
(D) \$14.70
(E) \$14.90

8. If m and p are positive integers, $2^m \cdot 2^p = 32$, and

$(2^m)^p = 64$, which of the following could be the value of m ?

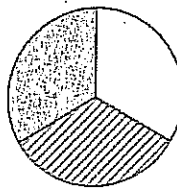
(A) 1
(B) 3
(C) 5
(D) 6
(E) 8

9. If $\frac{a}{10} + \frac{b}{10} = 10$, what is the value of $a + b$?

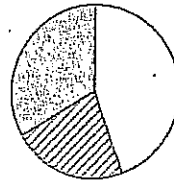
(A) 1
(B) 5
(C) 10
(D) 50
(E) 100

10. In Ms. Murray's art class, one-third of the students have taken at least one previous art class; of those, one-third have taken two or more previous art classes. Which of the following circle graphs could represent Ms. Murray's class divided into 3 different groups: those who have taken two or more previous art classes, one previous art class, or no previous art class?

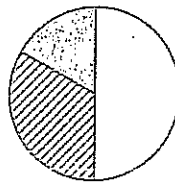
(A)



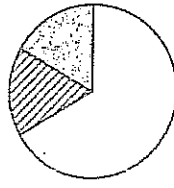
(B)



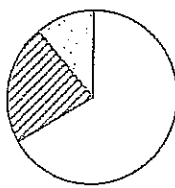
(C)



(D)



(E)



11. Three consecutive integers are such that two times the largest is three times the smallest. What is the smallest of these three integers?

(A) -6
(B) -4
(C) 2
(D) 4
(E) 6

12. Point P lies in plane M . How many circles are there in plane M that have center P and a circumference of 6π inches?

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

TEMPERATURE VS. TIME
FOR FIVE MIXTURES


Mixture	Temperature at t Seconds (°C)
A	$-3t + 2$
B	$-\frac{1}{3}t - 2$
C	$-\frac{1}{3}t + 2$
D	$\frac{1}{3}t - 2$
E	$3t - 2$

13. The table above gives the temperatures of five different mixtures at t seconds after the mixture was formed. The temperature of which mixture falls the greatest number of degrees during the period from $t = 9$ to $t = 12$?

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

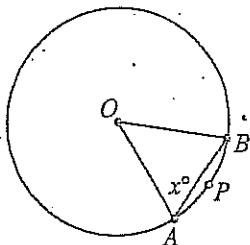
14. If p is an integer, which of the following must be true about $4p + 7$?

(A) It is odd.
(B) It is even.
(C) It is greater than 7.
(D) It is greater than p .
(E) It is divisible by 11.

GO ON TO THE NEXT PAGE 

If $n > 5$, then in terms of n , how much less than $7n - 4$ is $5n + 3$?

- (A) $2n + 7$
- (B) $2n - 7$
- (C) $2n + 1$
- (D) $2n - 1$
- (E) $n + 7$



Note: Figure not drawn to scale.

16. In the figure above, the circle has center O . If the measure of arc APB is 56° , what is the value of x ?

- (A) 28
- (B) 34
- (C) 56
- (D) 62
- (E) 68

17. If $g(x) > 0$ for all real values of x , which of the following could be the function g ?

- (A) $g(x) = x + 1$
- (B) $g(x) = x - 1$
- (C) $g(x) = x^2 + 1$
- (D) $g(x) = x^2 - 1$
- (E) $g(x) = x^3 + 1$

18. How many different positive four-digit integers can be formed if the first digit must be 2, the last digit cannot be 0, and digits may be repeated?

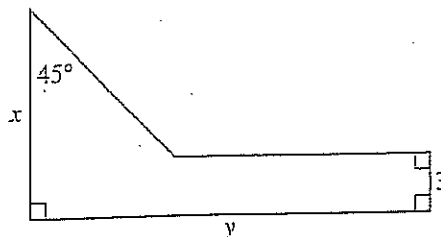
- (A) 336
- (B) 900
- (C) 1,000
- (D) 9,000
- (E) 10,000

GO ON TO THE NEXT PAGE

$$xy = x + y$$

19. If $y > 2$, what are all possible values of x that satisfy the equation above?

(A) $x < 0$
(B) $0 < x < 1$
(C) $0 < x < 2$
(D) $1 < x < 2$
(E) $x > 2$



20. Which of the following represents the area of the five-sided figure shown above?

(A) $\frac{1}{2}x^2 + \frac{3}{2}y$
(B) $\frac{1}{2}x^2 + 3y$
(C) $3y - \frac{1}{2}(x - 3)$
(D) $3y + \frac{1}{2}(x - 3)$
(E) $3y + \frac{1}{2}(x - 3)^2$

STOP

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Do not turn to any other section in the test.



SECTION 4

Time — 25 minutes

25 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) (E)

- Mala based her new online business in the —, because she wanted to work far away from the crowded, expensive city.
(A) metropolis (B) neighborhood (C) countryside
(D) emporium (E) multitude
- In his vivid representations of the African American experience, painter Romare Bearden often used colors so — that viewers could not take their eyes off his works of art.
(A) sensible (B) residual (C) vibrant
(D) mannered (E) formulaic
- By discovering how to — an affordable substitute for cortisone from soybeans, Percy Julian helped to make arthritis treatment — large numbers of people.
(A) eliminate . . superfluous for
(B) synthesize . . prohibitive for
(C) compromise . . feasible for
(D) constitute . . irrelevant to
(E) create . . accessible to
- Although the women in the eighteenth and nineteenth centuries who undertook botanical illustration were primarily —, their contributions as naturalists and cataloguers actually helped — the field as an academic discipline.
(A) researchers . . depreciate
(B) amateurs . . legitimize
(C) entrepreneurs . . subsidize
(D) biologists . . eschew
(E) historians . . chronicle
- To end his lecture on time, Professor Burke decided to — his final point and address it instead at the next class meeting.
(A) improvise (B) amend (C) forgo
(D) reiterate (E) promote
- Although A. S. Byatt's stories are elaborate and sometimes contain supernatural elements, her characters do not seem —; on the contrary, they are quite —.
(A) simplistic . . eccentric
(B) realistic . . memorable
(C) abstruse . . incomprehensible
(D) contrived . . plausible
(E) intricate . . complex
- Dr. Allan was told informally of several intriguing cases that accorded with her theory, but this — evidence could not provide the confirmation that a more — series of experiments would.
(A) anecdotal . . systematic
(B) theoretical . . convoluted
(C) impressionistic . . analogous
(D) unsubstantiated . . dilatory
(E) dogmatic . . rigorous
- Despite the — of books written about Greta Garbo, she ultimately remains —, an inscrutable personality.
(A) ardor . . a paragon
(B) profusion . . an enigma
(C) bounty . . an icon
(D) obtuseness . . a paradox
(E) dearth . . a mystery

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 9-10 are based on the following passage.

Line 5 When we came home, Aunt Sylvie would certainly be home, too, enjoying the evening, for so she described her habit of sitting in the dark. Evening was her special time of day. She gave the word three syllables, and indeed I think she liked it so well for its tendency to smooth, to soften. She seemed to dislike the disequilibrium of counterpoising a roomful of light against a worldful of darkness. Sylvie in a house was more or less like a mermaid in a ship's cabin. She preferred it sunk in the very element it was meant to
10 exclude.

9. The reference to Aunt Sylvie's pronunciation in line 4 serves to
- (A) capture a distinctive regional dialect
 - (B) highlight a double meaning of a word
 - (C) provide an ominous foreshadowing
 - (D) underscore a particular misconception
 - (E) give evidence of a contrary personality
10. The last sentence of the passage suggests that Sylvie felt a house should be a
- (A) shelter from darkness and danger
 - (B) defense against unwelcome visitors
 - (C) mysterious and adventurous place
 - (D) reminder of the cabin of a ship
 - (E) part of the world outdoors

Questions 11-12 are based on the following passage.

Line 5 Some people boast of having a sixth sense, professing to know or see things that others cannot. Fortune-tellers, mind readers, and mystics all lay claim to this power, and, in so doing, elicit widespread fascination in others, especially book publishers and television producers. The questionable field of parapsychology is of course founded on the belief that at least some people actually possess this mysterious power. But to me, the real mystery is why so many fortune-tellers choose to work the phones on television psychic
10 hotlines instead of becoming insanely wealthy stock traders on Wall Street.

11. The author implies that the "people" (line 1) are
- (A) mavericks
 - (B) dilettantes
 - (C) oracles
 - (D) charlatans
 - (E) pragmatists
12. The tone of the author's comment in the last sentence ("But . . . Street") is most accurately described as
- (A) sardonic
 - (B) baffled
 - (C) condescending
 - (D) didactic
 - (E) pensive



Questions 13-25 are based on the following passages.

These passages are adapted from observations made by two twentieth-century historians on how nations—and people—make use of their sense of their own history.

Passage 1

Although when we use the word “history” we instinctively think of the past, this is an error, for history is actually a bridge connecting the past with the present and pointing the road to the future. This fact Daniel Webster expressed many years ago in memorable nautical terms: “... when the mariner has tossed for many days in thick weather, and on an unknown sea, he naturally avails himself of the first pause in the storm, the earliest glances of the sun, to take his latitude and ascertain how far the elements have driven him from his true course.” Webster here indicates one of the cardinal utilities of history. Since humanity is always more or less storm-driven, history serves as a crucial navigational instrument for the nations which, tossed as they are by wind and current, would be lost in confusion if they could not identify their position.

History enables bewildered bodies of human beings to grasp their relationship with their past, and helps them chart their immediate forward course. And it does more than this. By giving people a sense of continuity in all their efforts, red-flagging error, and chronicling immortal worth, it confers on them a consciousness of unity, a realization of the value of individual achievement, and a comprehension of the importance of planned effort, as contrasted with aimless drifting.

Modern people, especially when harried and perplexed by the sweep of events, peer earnestly into history for some illumination of their predicament and prospects, even though they may only read magazine articles or listen to the radio or television. And when great events rouse people to their most responsible temper, and fierce national ordeals awaken them to a new sense of their capacities, they turn readily to the writing of history, for they wish to instruct, and to its reading, for they want to learn. It was no accident that the First World War fostered such an interest in history that for a time the number of books in English devoted to history exceeded the titles in fiction.

Passage 2

The historian has much to answer for. History—that is, written history and the examples it provides—has made and unmade nations, given courage to the oppressed and undermined the oppressor, has justified aggression and overridden law. After Germany’s defeat of France in 1870, a French historian exclaimed with unwilling admiration that the nineteenth-century Germans used their history as a means toward unity and a weapon of war; but that the story of his own country as written by his compatriots had taught the French people “above all to hate one

another.” Past heroism breeds future heroism, past cowardice the cowardice of the future. History tends to repeat itself by a process of almost deliberate imitation. We have been told what to expect of ourselves and, by expecting, we do it.

But what is this motivating force? What is written history? The nineteenth-century English historian Froude sonorously hailed it as “a voice forever sounding across the centuries the laws of right and wrong.” Written history is, in fact, nothing of the kind; it is the fragmentary record of the often inexplicable actions of innumerable bewildered human beings set down and interpreted according to their own limitations by other human beings, equally bewildered. The tribunal of history judges about as fairly as any random batch of court judges. But only a minority of people are able to recognize this fact, and, of that minority, only a minority will act upon it. The rest of us will go through life with a silt of moral and political prejudice washing about the brain—all derived directly and indirectly, by way of textbooks and propaganda and theaters and the marketplace, from historical writings.

It used to be said that history should be written without prejudice, that the historian must not step aside to draw a moral. The first cannot be done; the second should not. Historians should always draw morals. If the accurate, judicious and highly trained scholars fail to do so, the unscrupulous and unqualified will do it for them, and the deluded public will listen gaping to false but more emphatic prophets. Historians who neglect the education of the public are responsible for the villainous stuff to which the public will go instead. A nation does not create the historians it deserves; the historians are far more likely to create the nation.

13. The author of each passage argues that people use their nations’ history as a way to

- (A) bring about harmony among disparate groups
- (B) settle disputes over important precedents
- (C) make decisions about future actions
- (D) influence citizens of other nations
- (E) create myths fostering patriotism

14. The primary purpose of Passage 1 is to

- (A) define what is meant by the term “history” in Western culture
- (B) draw a parallel between collective and individual histories
- (C) describe the benefits of having a sense of history
- (D) clarify misconceptions about history
- (E) justify the public’s interest in history



15. The author of Passage 2 would most likely argue that a nation's history differs from a "crucial navigational instrument" (line 13, Passage 1) in that history
- (A) may offer flawed, even misleading, direction
 - (B) is not easily understood by every head of state
 - (C) helps to promote embarrassment, even shame
 - (D) offers little guidance on certain national issues
 - (E) must be studied in the context of a society's values
16. In line 26, "the sweep of events" most directly refers to events that happen
- (A) secretly and remain undisclosed
 - (B) routinely and appear unimportant
 - (C) swiftly and seem overwhelming
 - (D) accidentally and inspire improvements
 - (E) predictably and confirm expectations
17. The author of Passage 1 assumes that historians function as
- (A) wise and respected policy makers
 - (B) strict and disciplined instructors
 - (C) adventurous and articulate explorers
 - (D) knowledgeable and indispensable guides
 - (E) carefree and impetuous speculators
18. The author of Passage 2 would most likely consider the "number" (line 35, Passage 1) an example of the
- (A) appetite for history that makes the public vulnerable to irresponsible historians
 - (B) demand for history books that makes unscrupulous historians wealthy
 - (C) interest in history that leads readers to overestimate their own expertise
 - (D) need for heroic figures whose stories provide inspiration
 - (E) tendency of history texts to proliferate during wartime
19. The primary purpose of Passage 2 is to
- (A) present a strongly held opinion
 - (B) describe the methodology of a historian
 - (C) analyze a famous historian's work
 - (D) defend a widely held point of view
 - (E) discredit the validity of a project
20. In line 54, "sounding" most nearly means
- (A) measuring
 - (B) greeting
 - (C) proclaiming
 - (D) fathoming
 - (E) examining
21. The author of Passage 1 would most likely characterize the "tribunal of history" mentioned in line 60, Passage 2 as
- (A) detached and uninformed
 - (B) divisive and demanding
 - (C) objective and illuminating
 - (D) vast and mysterious
 - (E) conventional and superficial
22. In line 74, "gaping" most directly emphasizes the
- (A) public's appetite for documented truths
 - (B) audience's susceptibility to persuasion
 - (C) scholars' approach to conducting research
 - (D) historians' desire to entertain readers
 - (E) readers' preference for familiar explanations
23. The author of Passage 2 argues that written history often functions as a
- (A) useful description of documented facts
 - (B) glorious commemoration of past greatness
 - (C) powerful motivation for future reforms
 - (D) dubious training in scholarly detachment
 - (E) questionable model for future conduct



The "minority" (line 61, Passage 2) would most likely view the "sense of continuity" mentioned in line 19, Passage 1 with

- (A) disdain for its political implications
- (B) ambivalence about its popular appeal
- (C) curiosity about its future effects
- (D) appreciation of its short-term advantages
- (E) skepticism about its accuracy

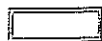
25. The author of Passage 1 and the author of Passage 2 differ most strongly on which topic?

- (A) The appeal of history
- (B) The reliability of historians
- (C) The impact of tumultuous events
- (D) The dearth of accessible historical documents
- (E) The relevance of the past to the present

NOTE: The reading passages in this test are brief excerpts or adaptations of excerpts from the published material. The ideas contained in them do not necessarily represent the opinions of the College Board or Educational Testing Service. To make the test suitable for testing purposes, we may in some cases have altered the style, contents, or point of view of the original.

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 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.

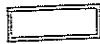
EXAMPLE:

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

1. The Women's Media Group recently launching an intern program in an effort to encourage minority women to think about careers in publishing and electronic media.
 - (A) The Women's Media Group recently launching an intern program
 - (B) The Women's Media Group recently would launch an intern program
 - (C) Recently launching an intern program, the Women's Media Group
 - (D) The Women's Media Group recently launched an intern program
 - (E) An intern program recently launched by the Women's Media Group
2. Bears in Yosemite National Park have been known to break into cars for food, candy, or even toothpaste, since such is the case, most campers heed posted warnings about the animals.
 - (A) toothpaste, since such is the case, most campers heed posted warnings about the animals
 - (B) toothpaste, with most campers therefore heeding posted warnings about the animals
 - (C) toothpaste, most campers heed posted warnings about the animals as a result
 - (D) toothpaste; and most campers heed posted warnings about the animals because of that
 - (E) toothpaste; therefore, most campers heed posted warnings about the animals
3. The annual National Concrete Canoe Competition attracts teams of engineering students having designed canoes that promote the versatility of concrete.
 - (A) having designed
 - (B) who have designed
 - (C) for designing
 - (D) to be designing
 - (E) and they designed
4. Anna Freud adapted classical psychoanalytic technique to the treatment of young children, being Sigmund Freud's daughter.
 - (A) Anna Freud adapted classical psychoanalytic technique to the treatment of young children, being Sigmund Freud's daughter.
 - (B) Anna Freud adapted classical psychoanalytic technique to the treatment of young children, and she was Sigmund Freud's daughter.
 - (C) Anna Freud, who as Sigmund Freud's daughter adapted classical psychoanalytic technique to the treatment of young children.
 - (D) Being Anna Freud, Sigmund Freud's daughter adapted classical psychoanalytic technique to the treatment of young children.
 - (E) Anna Freud, Sigmund Freud's daughter, adapted classical psychoanalytic technique to the treatment of young children.



5. Mindful of the growing popularity of backyard compost piles among home gardeners, experts warn that adding meat, dairy products, or cooking grease to compost will attract vermin.

- (A) experts warn that adding meat, dairy products, or cooking grease to compost will
- (B) adding meat, dairy products, or cooking grease to compost, this is what experts warn will
- (C) and with warnings from experts that adding meat, dairy products, or cooking grease to compost will
- (D) warnings from experts concerning the addition of meat, dairy products, or cooking grease to compost will
- (E) experts warning that adding meat, dairy products, or cooking grease to compost would

6. Jawaharlal Nehru, the first Prime Minister of an independent India, was a foe of colonialism, an advocate of civil disobedience, and a master of political oratory.

- (A) was a foe of colonialism, an advocate of civil disobedience, and a master of
- (B) was a foe of colonialism, an advocate of civil disobedience, and mastering
- (C) was a foe of colonialism, advocated civil disobedience, and a master of
- (D) was a foe of colonialism, an advocate of civil disobedience, and he mastered
- (E) fought colonialism, was an advocate of civil disobedience, mastering

7. Strong wind, it having swept almost unchecked over great distances, is a prime component of the grassland climate.

- (A) it having swept almost unchecked over great distances,
- (B) sweeping almost unchecked over great distances,
- (C) being almost unchecked, will sweep over great distances, for it
- (D) with almost unchecked sweeping over great distances,
- (E) swept over great distances and almost unchecked,

8. Although she wrote 2,000 years ago, the Roman poet Sulpicia is still being read: her poems are available in English translation in a number of anthologies.

- (A) read: her poems are
- (B) read, her poems are
- (C) read; her poems being
- (D) read: her poems are being
- (E) read, yet her poems are

9. The apparently chaotic images in certain types of contemporary painting strike many viewers as both confusing but delightfully original.

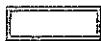
- (A) but
- (B) but also
- (C) yet
- (D) and as
- (E) and

10. The director's insistence that there be adequate stage lighting and professionally installed backdrops in the theater was not obstinate but a determination to provide a safe work environment for the actors and stage crew.

- (A) was not obstinate but a determination
- (B) was not obstinate but determined
- (C) was not because of obstinacy, he was determined
- (D) resulted not from obstinacy, but he was determined
- (E) resulted not from obstinacy but from a determination

11. Researchers have found that large fish are most likely to contain high levels of mercury than small fish.

- (A) are most likely to contain high levels of mercury than small fish
- (B) are more likely to contain high levels of mercury compared to small fish
- (C) are more likely than small fish to contain high levels of mercury
- (D) compared with small fish most likely contain high levels of mercury
- (E) more likely contain higher levels of mercury than in small fish



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

neutral states. No error

E

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

12. While working at Harvard Observatory classifying

A
stars, Antonia Maury becoming one of the first

B
astronomers to identify a spectroscopic binary star

C
with her discovery of Beta Aurigae in 1889. No error

D

E

13. Before steamships started crossing the North Atlantic

in the early nineteenth century, the best way to travel

A
between Europe and America has been on sailing

B C
ships called "packets." No error

D

E

14. The most successful algebra teachers do not have

A
their students simply memorize formulas and

B
equations; they make sure that their students also

C
understand the underlying mathematical concepts.

D
No error

E

15. Of three common approaches to writing music,

A
composers generally seem to find instrumental

B C
improvisation the more congenial. No error

D

E

16. Among the most dangerous environmental threats that

A
we face are "compu-garbage," the nonbiodegradable

B
and often toxic waste resulting from the improper

C
disposal of obsolete personal computers. No error

D

E

17. Slanting through the trees, yesterday's late afternoon

A
sun cast more deeper shadows on the bedroom wall.

B C D
No error

E

18. After sampling the grapes, the six judges decided

A B
that the homegrown produce tasted better than

C
the import company. No error

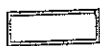
D

E

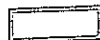
5



5



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5



5

19. For most of recent history, people have used energy

A

wastefully, but now that supplies of essential fuels

B

are becoming rapidly depleted, environmentalists are

C

urging people to change it. No error

D E

20. As the guide led us through the exhibit of ancient

A

Russian icons, she interspersed explanations of the

objects with stories about her own first encounters

B

C

with Russian art, giving you a unique personal

D

dimension to the tour. No error

E

The region bounded by the northwest corner of

A

Greenland, the northern tip of Labrador, and the

Mackenzie Delta include the islands collectively

B

C

known as the Canadian Arctic Archipelago. No error

D

E

22. Because traffic was unusually heavy, Jim arrived ten

A

minutes late for his job interview even though he had

B

run desperately all the way from the bus stop.

C

D

No error

E

23. As adults, male golden silk spiders live not in webs

A

B

of their own making but rather in webs made by

C

D

female spiders. No error

E

24. Mr. Hanson proudly demonstrated his company's

A

B

latest cell phone, a model that flashes the time in

C

color-coded numerals when pressing a button.

D

No error

E

25. At a time when interest in twentieth-century classical

A

music seems on the verge to disappear, the avant-

B

C

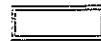
garde compositions of the 1960s and 1970s manage to

D

retain their popularity. No error

E

GO ON TO THE NEXT PAGE



25. A powerful advocate to equal rights, Belva Lockwood

A

was twice a candidate for President long before the

B

Nineteenth Amendment to the Constitution allowed

C

women to vote. No error

D

E

27. Persistent use of antibacterial soaps in homes

both kills many innocuous bacteria

A

B

and encourages harmful ones to develop

C

even more resistant strains. No error

D

E

28. Annual visitors to New York City's Central Park

A

number almost ten times that of Mount Rushmore.

B

C

D

No error

E

29. To insist that a poem means whatever one wants it

A

B

to mean is often ignoring the intention and even

C

D

the words of the poet. No error

E

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

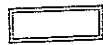
Read the passage and select the best answers for the questions that follow. Some questions are about particular sentences or parts of sentences and ask you to improve sentence structure or word choice. Other questions ask you to consider organization and development. In choosing answers, follow the requirements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

Questions 30-35 refer to the following passage.

(1) The decade after 1937 saw considerable growth in the African American press in the United States. (2) Traditionally, African American newspapers had been distributed only through the mail and at newsstands in a few large cities. (3) However, in 1938 LeRoy Brannic founded a newspaper distributorship, the Great Eastern News Corporation, in New York City, with outlets in cities throughout the country. (4) It was controlled and operated entirely by African Americans. (5) Brannic's company put African American newspapers into wide circulation across the country. (6) Though viewed as a modern means of mass communication, newspapers in fact date back to ancient Rome.

(7) Increased circulation brought more income with which African American publishers could improve production. (8) The Scott Syndicate in Atlanta, Georgia, was mass-producing 32 different newspapers by the mid-1940s. (9) Syndication offered the advantages of shared news, features, and printing, each paper still maintaining contact with its local community through a small staff employed there.

(10) Salaries rose, and while the older, self-made men retained ownership of the newspapers. (11) College-educated reporters began to join newspaper staffs. (12) Coverage expanded. (13) Some of the more successful papers could support their own foreign correspondents. (14) Increased use of photography in the newspapers, made possible by the purchase of expensive printing equipment, meant more work and better salaries for African American photographers.



... In order to maintain a logical flow of ideas, which of the following sentences should be omitted from the passage?

- (A) Sentence 3
- (B) Sentence 6
- (C) Sentence 9
- (D) Sentence 12
- (E) Sentence 13

31. In context, which of the following is the best revision of the underlined portion of sentences 4 and 5 (reproduced below)?

It was controlled and operated entirely by African Americans. Brannic's company put African American newspapers into wide circulation across the country.

- (A) It was controlled and operated entirely by African Americans, and Brannic's company
- (B) It was controlled and operated entirely by African Americans, though Brannic's company
- (C) Being controlled and operated entirely by African Americans, it was Brannic's company that
- (D) Controlled and operated entirely by African Americans, Brannic's company
- (E) Brannic's company, which was controlled and operated entirely by African Americans, has

32. In context, which of the following is best placed at the beginning of sentence 8 (reproduced below)?

The Scott Syndicate in Atlanta, Georgia, was mass-producing 32 different newspapers by the mid-1940s.

- (A) Unexpectedly, then,
- (B) For example, one company,
- (C) Nevertheless,
- (D) In short,
- (E) On the other hand,

33. In context, which is the best version of the underlined portion of sentence 9 (reproduced below)?

Syndication offered the advantages of shared news, features, and printing, each paper still maintaining contact with its local community through a small staff employed there.

- (A) printing, and their papers still maintained
- (B) printing; instead, each paper still maintained
- (C) printing, while allowing each paper to maintain
- (D) printing, though each paper maintains
- (E) printing; each paper will still maintain

34. In context, what is the best way to deal with sentence 10 (reproduced below)?

Salaries rose, and while the older, self-made men retained ownership of the newspapers.

- (A) Insert the word "had" immediately before "retained".
- (B) Connect it to sentence 11 with a comma, changing "newspapers. College-educated" to "newspapers, college-educated".
- (C) Switch it with sentence 11.
- (D) Place it immediately before sentence 7.
- (E) Change "while" to "yet".

35. In context, which is the best place to put the following sentence?

Syndication also created financial prosperity and new career opportunities for African Americans.

- (A) Immediately before sentence 2
- (B) Immediately before sentence 5
- (C) Immediately before sentence 7
- (D) Immediately before sentence 8
- (E) Immediately before sentence 10

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

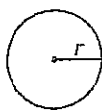
Turn to Section 6 (page 6) of your answer sheet to answer the questions in this section.

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

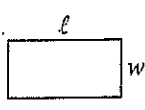
1. The use of a calculator is permitted.
2. All numbers used are real numbers.
3. Figures that accompany problems in this test are intended to provide information useful in solving the problems. They are drawn as accurately as possible EXCEPT when it is stated in a specific problem that the figure is 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

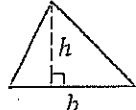


$$A = \pi r^2$$

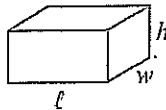
$$C = 2\pi r$$



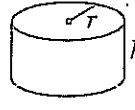
$$A = \ell w$$



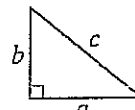
$$A = \frac{1}{2}bh$$



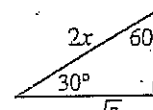
$$V = \ell wh$$



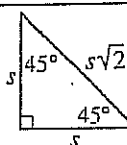
$$V = \pi r^2 h$$



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



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 $4x = 32$, then $\frac{1}{4}x =$

(A) 1
(B) 2
(C) 4
(D) 8
(E) 32

2. A box contains 5 white, 6 red, and 9 blue marbles, and there are no other marbles in the box. If 1 marble is to be drawn at random from the box, what is the probability that the marble drawn will be white?

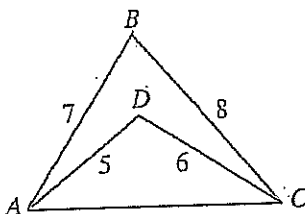
(A) $\frac{1}{9}$
(B) $\frac{1}{6}$
(C) $\frac{1}{5}$
(D) $\frac{1}{4}$
(E) $\frac{1}{2}$

GO ON TO THE NEXT PAGE



If T is the set of even integers and S is the set of integers that are divisible by 7, which of the following integers is NOT contained in set T and is NOT contained in set S ?

- (A) 4
- (B) 10
- (C) 28
- (D) 35
- (E) 39




4. In the figure above, how much greater is the perimeter of $\triangle ABC$ than the perimeter of $\triangle ADC$?

- (A) 1
- (B) 2
- (C) 4
- (D) 5
- (E) 6

5. For all positive integers n , let $n\clubsuit$ be defined as the square of the greatest prime factor of n . For example, $6\clubsuit = 9$, since the greatest prime factor of 6 is 3 and $3^2 = 9$. What is the value of $10\clubsuit$?

- (A) 2
- (B) 4
- (C) 5
- (D) 25
- (E) 100

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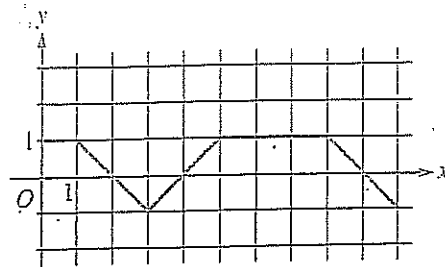


6. Line ℓ lies in the xy -coordinate plane and contains points $(2, 3)$ and $(9, 7)$. If line k is perpendicular to line ℓ , what is the slope of line k ?

- (A) $-\frac{7}{4}$
 (B) $-\frac{3}{2}$
 (C) $-\frac{1}{3}$
 (D) $\frac{7}{2}$
 (E) $\frac{9}{2}$

7. Marsha is making a necklace. She starts with 2 red beads, 3 white beads, and 4 blue beads, in that order, and repeats the pattern until there is no more room on the necklace. If the last bead is white, which of the following could be the total number of beads on the necklace?

- (A) 80
 (B) 78
 (C) 76
 (D) 74
 (E) 72



8. The figure above shows the graph of $y = h(x)$, where h is a function. If $h(a) = h(2a)$, which of the following could be the value of a ?

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



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.

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

Write answer in boxes. →

7	/	1	2
•	•	•	•
0	0	0	0
1	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

Grid in result. →

← Fraction line

Answer: 2.5

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

← Decimal point

Answer: 201

Either position is correct.

2	0	1
•	•	•
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4

2	0	1
•	•	•
0	0	0
1	1	1
2	2	2
3	3	3
4	4	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 $\frac{31}{2}$ 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:

2	/	3
•	•	•
0	0	0
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6

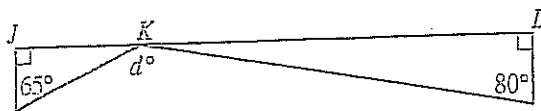
.	6	6	6
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6

.	6	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	5
6	6	6	6

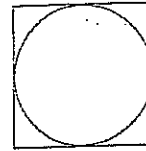
9. If $\frac{x}{10} = 10$, what is the value of $\frac{20}{x}$?

10. The first term of a sequence is 160. After the first term, each term in the sequence is formed by dividing the immediately preceding term by 2. What is the eighth term of the sequence?

GO ON TO THE NEXT PAGE



11. In the figure above, K is a point on segment \overline{JL} . What is the value of d ?



13. A circle with a circumference of 16π is inscribed in a square, as shown in the figure above. What is the area of the square?

INVENTORY OF CARS AT
SMALLVILLE'S AUTO DEALER

	2-Door Models	4-Door Models
Blue	x	12
Red	6	8
White	2	6
Black	3	4
Other	5	10

12. The table above shows the inventory of cars that are available at an auto dealer, by color and model. If the dealer has twice as many 4-door models as 2-door models, what is the value of x ?

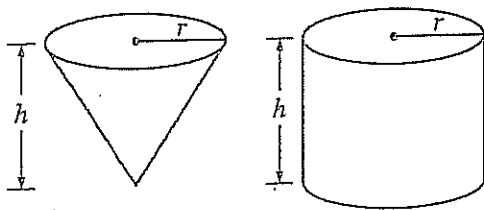
14. The population of rabbits in a controlled forest setting t months after observation began is modeled by the function R , where $R(t) = 250(4)^{\frac{t}{5}}$. According to this model, what is the population of rabbits 10 months after observation began?

GO ON TO THE NEXT PAGE



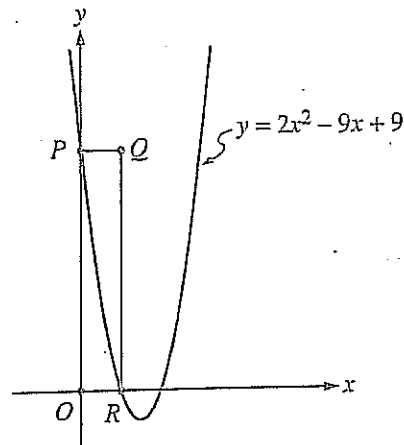
$$\frac{a}{3} + \frac{b}{6} + \frac{c}{18} = 1$$

15. If a , b , and c are each positive integers in the equation above, what is one possible value of the product abc ?



16. Each of the containers shown above has a radius r of 3 inches and a height h of 6 inches. If the cone-shaped container is filled with water and this water is then poured into the empty cylindrical container, what will be the depth, in inches, of the water in the cylindrical container? (Volume of cone = $\frac{1}{3}\pi r^2 h$)

17. A number is added to 9 less than twice the number. If the result is 180, what is the number?



18. In the figure above, the graph of $y = 2x^2 - 9x + 9$ intersects the y -axis at P and the x -axis at R . What is the area of rectangle $OPQR$?

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) catch . . satisfactory
- (E) resolve . . acceptable

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

3. Linda is ----- in matters large and small: she is inflexible in her opinions and utterly resistant to persuasion.
(A) facetious (B) avuncular (C) sanguine
(D) obdurate (E) tractable
4. Jason was truly -----, for he squandered a great deal of money with no thought for the future.
(A) prescient (B) infallible (C) reticent
(D) improvident (E) sedulous
5. The 1990's were ----- years for the organization: the staff was happy, customers were satisfied, and profits were excellent.
(A) halcyon (B) notorious (C) somnolent
(D) capricious (E) expedient
1. Knowing the rewards of -----, NASA astronaut Ellen Ochoa encourages students to study hard if they wish to pursue careers in science and engineering.
(A) generosity (B) serendipity (C) diligence
(D) individuality (E) merriment
2. The editor did not wish to print an article based on mere -----; she therefore ordered the reporter to find convincing -----.
(A) substantiation . . data
(B) speculation . . guesswork
(C) conjecture . . proof
(D) amicability . . rationalization
(E) explanation . . interpretation



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

It was time to visit some sweets factories. Would they be magical, unpredictable places, like those in the movies, with steaming and chugging machines? The reality was far better. I visited half a dozen factories, and every time I entered one I was delirious with joy, ecstatic that the machines were exactly as I hoped they would be—long conveyor belts crammed with little sweets being prodded and poked, coated and dried, and extraordinary cauldrons and pipes and pushers and packers and printers and stampers and choppers and scrapers, all working away to produce super-fresh examples of super sweets, which were left lying around in vast piles, trays and buckets—as if I had stumbled on a candy El Dorado.*

Passage 2

The candy factory places all the foul props of the modern age in the service of our most innocent desires. To watch huge, metal machines plink out delicate chocolate bunnies—what delicious irony! The bogeyman of technology tamed! Bunnies not bombs! This is a lot of nonsense, of course. Candy companies are servants of global capitalism, just as surely as oil and plastics companies. They dehumanize workers, both here and abroad, pump out pollution, and provide an indulgence that is unconscionable, given the great many people on the planet who are starving.

* a legendary city of great wealth

6. Both passages suggest that

- (A) the candy manufacturing process has been patterned after processes used in other industries
- (B) real candy factories are even more intriguing than the ones featured in films
- (C) candy companies produce a variety of candy for a global market
- (D) candy production is highly mechanized
- (E) candy production is extremely costly

7. Compared with the tone of Passage 1, the tone of Passage 2 is more

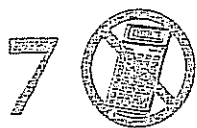
- (A) ecstatic
- (B) sincere
- (C) pensive
- (D) evasive
- (E) indignant

8. In Passage 2, the sentence "This is a lot of nonsense, of course" (lines 18-19) marks a shift from

- (A) flowery description to unambiguous fact
- (B) facetious exclamation to earnest assertion
- (C) random description to concise prediction
- (D) a candid declaration to a somber apology
- (E) a historical recounting to a revisionist account

9. The author of Passage 2 would most likely regard the view expressed in Passage 1 as

- (A) endearing
- (B) discerning
- (C) insincere
- (D) naïve
- (E) pragmatic



Questions 10-15 are based on the following passage.

The following passage is adapted from a nineteenth-century short story. A group of men are in a small lifeboat after their ship has sunk during a storm.

The mind of the master of a vessel is rooted deep in the timbers of her, though he command for a day or a decade; and this captain had on him the stern impression of a scene in the greys of dawn of seven turned faces, and later a stump of a topmast with a white ball on it, that slashed to and fro at the waves, went low and lower, and down. Thereafter there was something strange in his voice. Although steady, it was deep with mourning, and of a quality beyond oration or tears.

"Keep 'er a little more south, Billie," said he.

"A little more south, sir," said the oiler in the stern.

A seat in this boat was not unlike a seat upon a bucking bronco, and by the same token a bronco is not much smaller. The craft pranced and reared and plunged like an animal. As each wave came, and she rose for it, she seemed like a horse making at a fence outrageously high. The manner of her scramble over these walls of water is a mystic thing, and, moreover, at the top of them were ordinarily these problems in white water, the foam racing down from the summit of each wave requiring a new leap, and a leap from the air. Then, after scornfully bumping a crest, she would slide and race and splash down a long incline, and arrive bobbing and nodding in front of the next menace.

A singular disadvantage of the sea lies in the fact that after successfully surmounting one wave you discover that there is another behind it just as important and just as nervously anxious to do something effective in the way of swamping boats. In a ten-foot dinghy one can get an idea of the resources of the sea in the line of waves that is not probable to the average experience, which is never at sea in a dinghy. As each slaty wall of water approached, it shut all else from the view of the men in the boat, and it was not difficult to imagine that this particular wave was the final outburst of the ocean, the last effort of the grim water. There was a terrible grace in the move of the waves, and they came in silence, save for the snarling of the crests.

In the wan light the faces of the men must have been grey. Their eyes must have glinted in strange ways as they gazed steadily astern. Viewed from a balcony, the whole thing would doubtless have been weirdly picturesque. But the men in the boat had no time to see it, and if they had had leisure, there were other things to occupy their minds.

The sun swung steadily up the sky, and they knew it was broad day because the colour of the sea changed from slate to emerald green streaked with amber lights, and the foam was like tumbling snow. The process of the breaking day was unknown to them. They were aware only of this effect upon the colour of the waves that rolled toward them.

10. Which of the following best describes the primary focus of the passage?

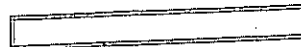
- (A) The character of the captain
- (B) The boating skills of the men
- (C) The power of the sea
- (D) The fear of the men
- (E) The beauty of nature

11. The narrator's characterization of the captain's "voice" (line 7) suggests that the captain was

- (A) resolute and openly reckless
- (B) distressed, yet determined to persevere
- (C) domineering, yet considerate of others
- (D) concerned, but also optimistic
- (E) anxious and obviously impatient

12. The "singular disadvantage" mentioned in line 25 is that

- (A) it is difficult to tell where you are at sea because the view is always the same
- (B) sailors often misjudge the extent of their sailing skills when facing danger
- (C) every dangerous wave is followed by one that is equally dangerous
- (D) perilous situations at sea occur when sailors are least prepared for them
- (E) small boats are often swamped by rough seas during stormy weather



In line 25, "lies" most nearly means

- (A) reclines
- (B) resides
- (C) traces
- (D) deceives
- (E) extends

14. The sentence in lines 40-41 ("Viewed . . . picturesque") primarily indicates that

- (A) a detached observer might find the scene aesthetically intriguing
- (B) the men in the boat were not troubled by the sea's turbulence
- (C) the great distances involved at sea can make maintaining perspective difficult
- (D) only those with a keen sense of natural beauty can truly appreciate the sea
- (E) the best way to experience the sea's vastness is from an elevated position

15. In the last paragraph, the "men in the boat" (line 42) are described as

- (A) almost paralyzed by a sense of the inevitable doom facing them
- (B) keenly aware that the sea is both beautiful and dangerous
- (C) grateful to see daybreak because it signals a possibility of hope and rescue
- (D) oblivious to some aspects of the world around them
- (E) so overcome by exhaustion that they have lost the ability to respond to danger



Questions 16-24 are based on the following passage.

In this selection from a 1995 work, the author discusses the role of photography in her own family and in African American culture as a whole.

Line 5 Growing up in the 1950's, I was somewhat awed and at times frightened by our extended family's emphasis on picture taking. Every wall and corner of my grandparents' (and most everybody else's) home was lined with photographs. When I was young, I never linked this obsession with self-representation to our history as a subjugated people.

10 For a long time cameras remained mysterious and off limits to all of us but my father. As the only one in the family who had access to the equipment, who could learn how to make the process work, my father exerted control over our images. In charge of capturing our family history with the camera, he called and took the shots. We were constantly being lined up for picture taking, and it was 15 years before our household could experience this as an enjoyable activity, before any of the rest of us could be behind the camera. Until then, picture taking was serious business. I hated it. I hated posing. I hated cameras. I hated the images that cameras produced. I wanted to leave no 20 trace. I wanted there to be no walls in my life that would, like gigantic maps, chart my journey. I wanted to stand outside history.

25 That was twenty years ago. Now that I am passionately involved with thinking critically about Black people and representation, I can confess that those walls of photographs empowered me, and that I feel their absence in my life. Right now I long for those walls, those curatorial spaces in the home that express our will to make and display images.

30 My mother's mother was a keeper of walls. Throughout my childhood, visits to her house were like trips to a gallery or museum—experiences we did not have because of racial segregation. We would stand before the walls of images and learn the importance of the arrangement, why a certain photograph was placed here and not there. The walls were 35 fundamentally different from photo albums. Rather than shutting images away, where they could be seen only upon request, the walls were a public announcement of the primacy of the image, the joy of image making. To enter 40 Black homes in my childhood was to enter a world that

valued the visual, that asserted our collective will to participate in a curatorial process.

45 Drawing from the past, from those walls of images I grew up with, I gather snapshots and lay them out to see what narratives the images tell, what they say without words. I search these images to see if there are imprints waiting to be seen, recognized, and read. Together, a Black male friend and I lay out the snapshots of his boyhood to see when he began to lose a certain openness, to discern at 50 what age he began to shut down, to close himself away. Through these images, my friend hopes to find a way back to the self he once was. We are awed by what our snapshots reveal, what they enable us to remember.

55 The word *remember* (*re-member*) evokes the coming together of severed parts, fragments becoming a whole. Photography has been, and is, central to that aspect of racial empowerment that calls us back to the past and offers us a way to reclaim and renew life-affirming bonds. Using images, we connect ourselves to a recuperative, redemptive 60 memory that enables us to construct identities, images of ourselves.

16. The author uses "obsession" in line 6 in order to

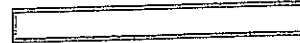
- (A) reveal her own strong interest in family history
- (B) demonstrate the extent of her involvement with her parents
- (C) show her admiration for her family's devotion to a hobby
- (D) suggest that there was something extreme about the adults' behavior
- (E) deplore the effects of excessive picture taking on the community

17. The author's attitude toward photography in lines 18-22 is best described as

- (A) mild impatience with a habitual activity
- (B) grudging approval of an unusual practice
- (C) intense resentment of an unwelcome intrusion
- (D) acute regret for a childhood misconception
- (E) growing ambivalence about a family tradition

18. In line 21, "chart" most nearly means

- (A) analyze statistically
- (B) present as a table
- (C) reward
- (D) predict
- (E) chronicle



19. In line 21, "journey" refers to the author's

- (A) progress through life
- (B) development as a writer
- (C) travel to visit distant relatives
- (D) understanding of family history
- (E) exploration of the local community

20. In line 26, "absence" refers metaphorically to a lack of a

- (A) constraining force
- (B) cluttered space
- (C) negative influence
- (D) sustaining tradition
- (E) joyful occasion

21. The author mentions "photo albums" in line 36 in order to

- (A) demonstrate the ease with which photographs can be assembled in an album
- (B) help point out the effect of having photographs continuously on display
- (C) illustrate her family's preoccupation with commemorating important occasions
- (D) emphasize the variety in her grandmother's collections of photographs
- (E) recall her childhood fascination with family photo albums

22. The friend's goal in examining snapshots (lines 47-53) is most analogous to which of the following?

- (A) A young man visits his father's childhood home in a distant city.
- (B) A child interviews an older relative to record the family's history.
- (C) A woman reads her childhood diary in an effort to rekindle past goals and values.
- (D) Parents take annual photographs of their children to document the children's growth.
- (E) A grandmother teaches her native language to her grandchildren.

23. The author uses the words "recuperative" and "redemptive" in line 59 to suggest that a memory can

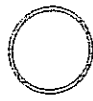
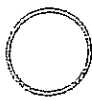
- (A) protect us from the damaging effects of history and time
- (B) play tricks on us by making the past seem better than it was
- (C) exaggerate the feelings we had in childhood
- (D) prevent people from repeating the mistakes of the past
- (E) heal people by helping them determine who they are

24. The author uses "construct" in line 60 to make which point about a person's sense of identity?

- (A) People begin building their identities at a remarkably early age.
- (B) Individuals create their identities partly from awareness of their heritage.
- (C) Family members work together to perpetuate a single sense of identity.
- (D) Young adults work hard to balance childhood and adult moral values.
- (E) Photographers help their subjects determine appropriate social roles.

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 8

Time — 20 minutes

18 Questions

Turn to Section 8 (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) (E)

1. Lumbee storyteller Barbara Braveboy-Locklear has performed in college theaters, powwows, and backyards, settings whose striking — highlights the — appeal that storytelling holds.
 - (A) formality . . diminishing
 - (B) variety . . insignificant
 - (C) uniformity . . ubiquitous
 - (D) diversity . . universal
 - (E) incongruity . . trivial
2. Thomas Edison, who found collaboration essential, never fit the popular stereotype of the — inventor, struggling alone in a garret.
 - (A) surly (B) cowardly (C) solitary
 - (D) weary (E) suspicious
3. Claudia is so adept at controlling her temper that she can seem quite — when she is actually —.
 - (A) perturbed . . furious
 - (B) placid . . outraged
 - (C) serene . . tranquil
 - (D) stoic . . ebullient
 - (E) ambivalent . . reticent
4. The young man possessed — disposition, abjectly submissive to the will of others.
 - (A) an amiable (B) an inscrutable (C) a servile
 - (D) a jocular (E) a melancholy
5. Although other European states broke apart under the stresses of political upheaval, the seventeenth-century Dutch republic proved remarkably —.
 - (A) propitious (B) illusory (C) resilient
 - (D) pertinent (E) poignant
6. It is her supremely skillful use of sophisticated laboratory instruments that makes Veronica the — research technician that she is.
 - (A) susceptible (B) consummate (C) visionary
 - (D) vitriolic (E) doctrinaire

GO ON TO THE NEXT PAGE



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

Questions 7-18 are based on the following passage.

The following excerpt is from a 1996 collection of essays written by a physicist.

I was somewhat embarrassed not so long ago when I opened a year-old physics journal and read that two Japanese fellows had attacked the same problem I was currently finishing up, obtaining an identical solution. The problem, not so consequential now as I reflect stochastically on my preempted calculations, concerned the spatial distribution that would eventually be achieved by a group of particles of different masses interacting with each other by gravity.

The underlying theories of gravity and thermodynamics necessary for solving such a problem are certainly well established, so I suppose I should not have been surprised to find that someone else had arrived at similar results. Still, my pulse raced as I sat with my notebook and checked off each digit of their answers, in exact agreement with mine to four decimal places.

After doing science for a number of years, one has the overwhelming feeling that there exists some objective reality outside ourselves, that various discoveries are waitingly formed, like plums to be picked. If one scientist doesn't pick a certain plum, the next one will. It is an eerie sensation.

This objective aspect of science is a pillar of strength and, at the same time, somewhat dehumanizing. The very usefulness of science is that individual accomplishments become calibrated, dry-cleaned, and standardized. Experimental results are considered valid only if they are reproducible; theoretical ideas are powerful only if they can be generalized and distilled into abstract, disembodied equations.

That there are often several different routes to a particular result is taken as an indication of the correctness of the result, rather than of the capacity for individual expression in science. And always there is the continual synthesis, the blending of successive results and ideas, in which individual contributions dissolve into the whole. Such strength is awe-inspiring and reassuring; it would be a tricky business to land a person on the Moon if the spaceship's trajectory¹ depended on the mood of the astronauts, or if the Moon were always hurrying off to unknown appointments.

For these same reasons, however, science offers little comfort to anyone who aches to leave behind a personal message in his or her work, his own little poem or her own haunting sonata. Einstein is attributed with the statement that even had Newton or Leibniz never lived, the world would have had calculus, but if Beethoven had never lived, we would never have had the C-minor Symphony.

Iax Delbrück, the physicist-turned-biologist, said in his Nobel Prize address, "A scientist's message is not devoid of universality, but its universality is disembodied and

50 anonymous. While the artist's communication is linked forever with its original form, that of the scientist is modified, amplified, fused with the ideas and results of others and melts into the stream of knowledge and ideas which forms our culture." It seems to me that in both science and
55 art we are trying desperately to connect with something — this is how we achieve universality. In art, that something is people, their experiences and sensitivities. In science, that something is nature, the physical world and physical laws. Sometimes we dial the wrong number and are later
60 found out. Ptolemy's theory of the solar system, in which the Sun and planets revolve about Earth in cycles and cycles within cycles, is imaginative, ingenious, and even beautiful — but physically wrong. Virtually unquestioned for centuries, it was ungracefully detonated like a condemned
65 building after Copernicus² came along.

Very well. Scientists will forever have to live with the fact that their product is, in the end, impersonal. But scientists want to be understood as people. Go to any of the numerous scientific conferences each year in biology or
70 chemistry or physics, and you will see a wonderful community of people chitchatting in the hallways, holding forth delightedly at the blackboard, or loudly interrupting each other during lectures with relevant and irrelevant remarks. It can hardly be argued that such in-the-flesh gatherings are
75 necessary for communication of scientific knowledge these days, with the asphyxiating crush of academic journals and the push-button ease of telephone calls. But it is here, and not in equations, however correct, that we scientists can express our personalities to our colleagues and relish an
80 appreciative smile. Sometimes I enjoy this as much as the science.

¹ path of a moving body through space

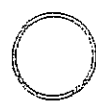
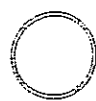
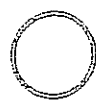
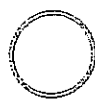
² Nicolaus Copernicus (1473-1543) advanced the theory that Earth and other planets revolve around the Sun.

From *Dance for Two* by Alan Lightman. Copyright © 1996 by Alan Lightman. Reprinted by permission of Pantheon Books, a division of Random House, Inc.

7. In line 20, the author uses the word "plums" to refer to the

- (A) multitude of problems needing to be solved
- (B) existence of yet-to-be-discovered scientific truths
- (C) fascinating nature of scientific discoveries
- (D) rewards of fame and prestige for veteran researchers
- (E) maturation of scientific investigations over long periods of time

GO ON TO THE NEXT PAGE



8. In the context of the passage, the author's use of "dry-cleaned" (line 26) and "distilled" (line 29) most directly reflects the overall
- (A) concern for maintaining a sterile environment in the laboratory
 - (B) fear that experimental results will be inappropriately judged
 - (C) pleasure in precise and accurate experimentation
 - (D) unease with the impersonal nature of scientific work
 - (E) dissatisfaction with society's attitude toward scientific research
9. In lines 35-39 ("Such . . . appointments"), the author discusses space exploration primarily to explain how
- (A) certain areas of science can capture the public imagination
 - (B) careful calculations affect space travel
 - (C) the individual scientist contributes to the study of astronomy
 - (D) space exploration is an expensive but necessary part of research in astronomy
 - (E) the absence of subjectivity in the natural world has practical benefits
10. In line 53, "melts" most nearly means
- (A) liquefies
 - (B) thaws
 - (C) evaporates
 - (D) merges
 - (E) softens
11. The passage distinguishes between two types of "universality" (line 56) primarily by
- (A) comparing ways in which they are achieved
 - (B) analyzing ways in which they have been interpreted
 - (C) describing situations in which they contradict one another
 - (D) providing famous examples of each from Nobel Prize winners
 - (E) criticizing the notions they convey about worldly success
12. The author's overall tone in the passage is best described as
- (A) self-congratulatory
 - (B) wistful
 - (C) restrained
 - (D) irate
 - (E) nostalgic
13. In discussing Ptolemy's theory of the solar system (lines 60-65), the author suggests all of the following EXCEPT:
- (A) Ptolemy's work as a scientist suffered from a lack of creativity.
 - (B) Copernicus' work eradicated the work of Ptolemy.
 - (C) The scientific value of a theory depends on whether it stands up to the challenges of other scientists.
 - (D) Scientific findings, even when based on inaccuracies, often are accepted as truth.
 - (E) Both Ptolemy and Copernicus made influential contributions to theories about the solar system.
14. The implication of the author's statement "Very well" (line 66) is that the author
- (A) is more than willing to take on a new challenge
 - (B) is concerned that scientists often make fundamental errors
 - (C) is pleased with the accomplishments of other scientists
 - (D) recognizes the need to accept an unpleasant fact
 - (E) agrees with the most recent astronomical theories
15. The distinction between the "communication" mentioned in line 50 and the "communication" mentioned in line 75 most directly reflects the difference between
- (A) talking to oneself and listening to a knowledgeable instructor
 - (B) expressing one's uniqueness and seeking friendship with an individual
 - (C) sharing emotional experiences and analyzing past events
 - (D) creating new objects and circulating existing relics
 - (E) conveying a personal vision and exchanging objective information
16. In line 76, "crush" most nearly means
- (A) compression
 - (B) infatuation
 - (C) stampede
 - (D) suppression
 - (E) overabundance



17. The author suggests that scientists attend conferences to
- (A) learn what research their colleagues are presently pursuing
 - (B) compare current lectures with the scientific knowledge already presented in journals
 - (C) keep up with the most recent discoveries in their respective fields
 - (D) participate in extensive personal interaction with colleagues
 - (E) express orally their scientific disagreements with their colleagues

18. The author makes use of all of the following EXCEPT

- (A) comparison and contrast
- (B) personal experience
- (C) citation
- (D) anecdote
- (E) accusation

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

16 Questions

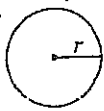
Turn to Section 9 (page 7) of your answer sheet to answer the questions in this section.

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

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

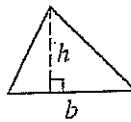


$$A = \pi r^2$$

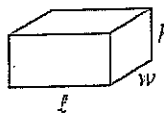
$$C = 2\pi r$$



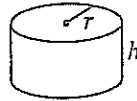
$$A = \ell w$$



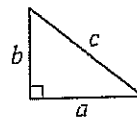
$$A = \frac{1}{2}bh$$



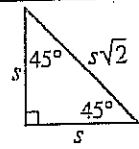
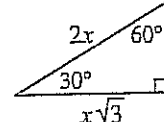
$$V = \ell wh$$



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



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



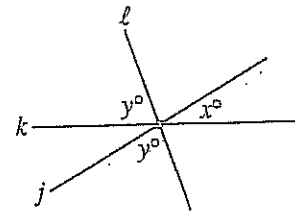
Special Right Triangles

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. A rope is 20 feet long. What is the maximum number of pieces, each 20 inches long, that can be cut from the rope? (1 foot = 12 inches)

- (A) 6
(B) 10
(C) 12
(D) 18
(E) 24



Note: Figure not drawn to scale.

2. Lines j , k , and ℓ intersect at a point as shown above. If $y = 70$, what is the value of x ?

- (A) 20
(B) 30
(C) 40
(D) 45
(E) 55

GO ON TO THE NEXT PAGE

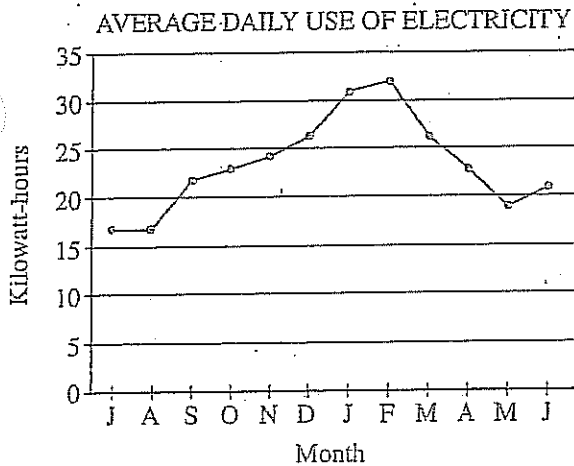
3, 9, x

3. The average (arithmetic mean) of the 3 numbers shown above is x . What is the value of x ?

(A) 3
(B) 4
(C) 5
(D) 6
(E) 9

5. Which of the following represents the statement, " x is 5 more than y "?

(A) $x = 5 + y$
(B) $x = 5y$
(C) $x + y = 5$
(D) $x + 5 > y$
(E) $x + y > 5$



4. The line graph above shows the average daily use of electricity, in kilowatt-hours, by a family for each month of a year, starting in July. For how many months of the year was the family's average daily use of electricity less than 20 kilowatt-hours?

(A) One
(B) Two
(C) Three
(D) Five
(E) Eight

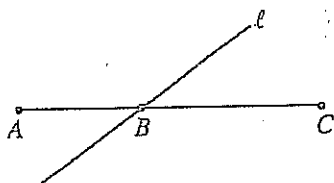


6. At Middletown High School, 25 of the 150 juniors are members of the marching band. The fraction of the number of seniors who are members of the band is equal to the fraction of the number of juniors who are members of the band. How many of the 120 seniors are in the band?

(A) 10
(B) 15
(C) 18
(D) 20
(E) 24

8. George collected 90 tokens worth a total of 1,275 points. If each of the tokens has a value of either 15 points or 10 points, how many 15-point tokens did George collect?

(A) 15
(B) 17
(C) 67
(D) 73
(E) 75



7. Line ℓ intersects \overline{AC} at point B so that $AB < BC$, as shown above. If X , Y , and Z (not shown) are the midpoints of \overline{AB} , \overline{AC} , and \overline{BC} , respectively, which of the following must be true?

- I. A and X are on the same side of ℓ .
II. C and Y are on the same side of ℓ .
III. X and Z are on opposite sides of ℓ .

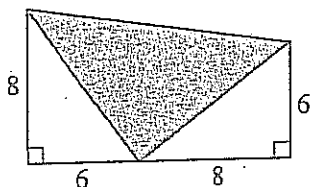
(A) I only
(B) II only
(C) III only
(D) I and III only
(E) I, II, and III



k	$f(k)$
-2	2
-1	-1
0	1
1	-2
2	0

9. The function f is defined by the table above. For what value of k does $f(k) - k = 0$?

(A) -2
(B) -1
(C) 0
(D) 1
(E) 2



10. The figure above shows a trapezoid divided into three triangles. What is the area of the shaded triangle?

(A) 44
(B) 46
(C) 48
(D) 50
(E) 52

11. What is the smallest possible integer value of x for which $(x - 8)(x + 5) < 0$?

(A) -8
(B) -7
(C) -6
(D) -5
(E) -4



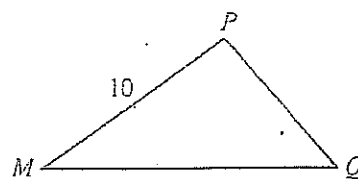
12. In the xy -plane, three of the vertices of a square are $(0, 0)$, $(0, 3)$, and $(3, 0)$. If the square is reflected about the line $y = -x$, which of the following is one vertex of the resulting square?

(A) $(-3, -3)$
 (B) $(-3, 3)$
 (C) $(0, 3)$
 (D) $(3, -3)$
 (E) $(3, 0)$

13. Of the 240 campers at a summer camp, $\frac{5}{6}$ could swim.

If $\frac{1}{3}$ of the campers took climbing lessons, what was the least possible number of campers taking climbing lessons who could swim?

(A) 20
 (B) 40
 (C) 80
 (D) 120
 (E) 200



Note: Figure not drawn to scale.

14. In $\triangle MPQ$ above, the measure of $\angle M$ is 30° and the measure of $\angle Q$ is 45° . What is the length of segment \overline{MQ} ?

(A) 15
 (B) 20
 (C) $5\sqrt{2}$
 (D) $5\sqrt{3}$
 (E) $5\sqrt{3} + 5$

15. If $x^2 = y^3$ and $y > 1$, what does $x^{\frac{2}{3}}$ equal in terms of y ?

- (A) y
- (B) $y^{\frac{3}{2}}$
- (C) y^2
- (D) y^6
- (E) y^9

$$z = x - y + 4$$

$$z = y - w - 3$$

$$z = w - x + 5$$

16. Based on the system of equations above, what is the value of z ?

- (A) 2
- (B) 3
- (C) 4
- (D) 6
- (E) 12

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. Born in Colombia in 1928, the Nobel Prize in Literature was awarded in 1982 to Gabriel García Márquez for his many novels.

- (A) the Nobel Prize in Literature was awarded in 1982 to Gabriel García Márquez for his many novels
- (B) the Nobel Prize in Literature, awarded to Gabriel García Márquez in 1982 for his many novels
- (C) Gabriel García Márquez's many novels were why he was awarded the Nobel Prize in Literature in 1982
- (D) his many novels brought Gabriel García Márquez the award of the Nobel Prize in Literature in 1982
- (E) Gabriel García Márquez was awarded the Nobel Prize in Literature in 1982 for his many novels

2. Transportation of a new crew to the international space station being funded partly by scientists who were wanting work on the station to continue.

- (A) being funded partly by scientists who were wanting work on the station to continue
- (B) funded partly by scientists, they wanted the station's work to continue
- (C) partly funded by scientists wanting the station continuing its work
- (D) was funded partly by scientists who wanted work on the station to continue
- (E) were funded by scientists in part wanting the station's work being continued



3. Alongside the trail on which we ride our bikes each morning run a crooked line of rugged old oak trees.
- (A) run a crooked line of rugged old oak trees
 - (B) runs a crooked line of rugged old oak trees
 - (C) runs rugged old oak trees in a crooked line
 - (D) there runs rugged old oak trees in a crooked line
 - (E) there run a crooked line of rugged old oak trees
4. Blinding rain and sudden dazzling flashes of lightning was obstructing our progress as we hurried back to our cars.
- (A) was obstructing
 - (B) were obstructing
 - (C) obstructing
 - (D) they obstructed
 - (E) obstructing us in
5. Because of pleading in vain for improved maintenance services, the tenants refused to pay rent until the landlord agreed to make the much-needed repairs.
- (A) Because of pleading in vain for improved maintenance services, the tenants refused
 - (B) Having pleaded in vain for improved maintenance services, the tenants refused
 - (C) The tenants pleaded in vain for improved maintenance services, thus, finally, refusing
 - (D) The tenants pleaded in vain for maintenance services to improve, then refusing
 - (E) Pleading for maintenance services to improve was in vain, which eventually caused the tenants to refuse
6. As rare as diamonds, some species of coral growing as deep as 2,000 feet beneath the sea and are highly prized in the Hawaiian jewelry trade.
- (A) growing as deep as
 - (B) that grow deeply up to
 - (C) grow as deep as
 - (D) has grown to the depth of
 - (E) grown as deeply as
7. The graduate studies office does its best with notification to students of missing documents required for graduation; however, it being their responsibility to file all the necessary paperwork.
- (A) with notification to students of missing documents required for graduation; however, it being their responsibility
 - (B) to notify students about required documents for graduation that are missing, then it is their responsibility
 - (C) to notify students of missing documents required for graduation; however, it is the student's responsibility
 - (D) when notifying students of missing required documents for graduation, and it is their responsibility
 - (E) about notifying students of their missing documents required for graduation, as they are responsible
8. Located in present-day Jordan, the ancient city of Petra growing wealthy over 2,000 years ago through the success of the spice trade.
- (A) ancient city of Petra growing wealthy
 - (B) ancient city of Petra has grown wealthy
 - (C) ancient city of Petra grew wealthy
 - (D) wealth of the ancient city of Petra growing
 - (E) wealth of the ancient city of Petra grew
9. Tell me where you have been and an account of your activities there.
- (A) an account of
 - (B) your accounting of
 - (C) what you account of
 - (D) what account you had made of
 - (E) give me an account of



10. Reading stories aloud to young students is an effective way to help them learn new words, also it can spark their interest in studying literature.
- (A) words, also it can spark their interest in studying
 - (B) words, and it can spark their interest in studying
 - (C) words that can also spark in them the interest to study
 - (D) words, as well as it could spark their interest in the study of
 - (E) words, which it also could spark their interest in studying
11. Recent studies indicate that eating chocolate and other sweets neither cause or aggravate acne.
- (A) neither cause or aggravate
 - (B) neither cause nor aggravate
 - (C) neither causes nor aggravates
 - (D) do not cause or aggravate
 - (E) does not cause nor aggravates
12. Those enrolled in the leadership training courses have evolved into dynamic, confident managers from an inexperienced and uncertain newcomer just a month ago.
- (A) from an inexperienced and uncertain newcomer
 - (B) from the inexperienced and uncertain newcomers they were
 - (C) from being inexperienced and uncertain newcomers
 - (D) instead of the inexperienced and uncertain newcomers of
 - (E) after being an inexperienced and uncertain newcomer
13. Uncertain how to proceed with the scene, the actors stopped, awaiting for further instructions from the director.
- (A) Uncertain how to proceed with the scene, the actors stopped, awaiting for
 - (B) The actors, uncertain how to proceed with the scene, they stopped to await
 - (C) Because they were uncertain how to proceed with the scene, the actors stopped and awaited
 - (D) Uncertainty about how to proceed with the scene stopped the actors to await
 - (E) In their uncertainty about how to proceed with the scene, the actors stopped and await for
14. The first emperor of Rome was Augustus, and many people think that it was Julius Caesar.
- (A) and many people think that it was
 - (B) many people thinking
 - (C) not, as many people think,
 - (D) not what many people are thinking,
 - (E) but many people think it to be

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.

Correct Answers and Difficulty Levels Form Codes AEQW, BWQW, CFQW

Critical Reading

Section 4

COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. C 1	14. C 4
2. C 1	15. A 3
3. E 1	16. C 3
4. B 2	17. D 3
5. C 3	18. A 4
6. D 3	19. A 3
7. A 5	20. C 2
8. B 5	21. C 5
9. B 5	22. B 3
10. E 4	23. E 3
11. D 5	24. E 4
12. A 5	25. B 3
13. C 2	

Number correct

Number incorrect

Section 7

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

Number correct

Number incorrect

Section 8

COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. D 2	10. D 1
2. C 2	11. A 3
3. B 2	12. B 4
4. C 4	13. A 3
5. C 3	14. D 3
6. B 5	15. E 3
7. B 3	16. E 3
8. D 5	17. D 3
9. E 3	18. E 4

Number correct

Number incorrect

Writing

Section 3

COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. E 1	11. D 3
2. B 1	12. B 3
3. A 1	13. A 3
4. C 1	14. A 4
5. C 2	15. B 3
6. B 3	16. D 4
7. D 3	17. C 3
8. B 2	18. B 3
9. E 3	19. D 4
0. E 3	20. E 5

Number correct

Number incorrect

Section 6

Multiple-Choice Questions

COR. DIFF. ANS. LEV.
1. B 1
2. D 1
3. E 2
4. C 2
5. D 2
6. A 2
7. C 3
8. B 4

Number correct

Number incorrect

Student-Produced Response Questions

COR. DIFF. ANS. LEV.	DIFF. LEV.
9. 1/5 or 2	2
10. 5/4 or 1.25	2
11. 145	2
12. 4	3
13. 256	3
14. 4000	2
15. 6, 9 or 12	3
16. 2	4
17. 63	3
18. 27/2 or 13.5	4

Number correct
(9-18)

Section 9

COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. C 1	9. B 3
2. C 1	10. D 3
3. D 2	11. E 3
4. C 1	12. A 4
5. A 2	13. R 4
6. D 1	14. E 5
7. E 2	15. A 4
8. E 3	16. A 5

Number correct

Number incorrect

Writing: Multiple-Choice

Section 5

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

Number correct

Number incorrect

Section 10

COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.	COR. DIFF. ANS. LEV.
1. E 1	6. C 2	11. C 3
2. D 1	7. C 2	12. B 4
3. B 1	8. C 3	13. C 4
4. B 3	9. E 3	14. C 5
5. B 2	10. B 3	

Number correct

Number incorrect

NOTE: Difficulty levels are estimates of question difficulty for a reference group of college-bound seniors.
Difficulty levels range from 1 (easiest) to 5 (hardest).

SAT Score Conversion Table

Form Codes AEQW, BWQW, CFQW

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	500	540	57
66	800			30	500	530	56
65	800			29	490	520	55
64	800			28	490	510	54
63	790			27	480	500	53
62	770			26	470	500	52
61	760			25	470	490	52
60	740			24	460	480	51
59	730			23	450	470	50
58	720			22	450	460	49
57	700			21	440	450	48
56	690			20	440	450	47
55	680			19	430	440	46
54	670	800		18	420	430	45
53	660	780		17	420	420	44
52	650	750		16	410	410	43
51	640	730		15	400	410	42
50	630	710		14	390	400	41
49	630	700	80	13	390	390	40
48	620	680	80	12	380	380	39
47	610	670	77	11	370	370	38
46	600	660	75	10	360	360	37
45	600	650	73	9	360	350	36
44	590	650	71	8	350	340	35
43	580	640	70	7	340	330	34
42	570	630	69	6	330	320	33
41	570	620	67	5	320	300	31
40	560	610	66	4	300	290	30
39	550	600	65	3	290	270	29
38	550	590	64	2	280	250	27
37	540	590	63	1	260	230	25
36	540	580	62	0	250	210	23
35	530	570	61	-1	230	200	21
34	520	560	60	-2	210	200	20
33	520	550	59	-3	200	200	20
32	510	550	58	and below			

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

SAT Writing Composite Score Conversion Table

Form Code CPQW

Writing MC Raw Score	Essay Raw Score											
	12	11	10	9	8	7	6	5	4	3	2	0
49	800	800	800	800	780	770	750	730	720	710	690	680
48	800	800	790	780	760	740	720	710	690	680	660	650
47	800	790	770	760	730	720	700	680	670	660	640	630
46	790	770	750	740	720	700	680	660	650	640	620	610
45	770	760	740	720	700	680	670	650	640	620	610	600
44	760	740	730	710	690	670	650	640	620	610	590	580
43	750	730	710	700	680	660	640	630	610	600	580	570
42	740	720	700	690	670	650	630	610	600	590	570	560
41	720	710	690	680	650	640	620	600	590	580	560	550
40	710	700	680	670	650	630	610	590	580	570	550	540
39	710	690	670	660	640	620	600	580	570	560	540	530
38	700	680	660	650	630	610	590	580	560	550	530	520
37	690	670	660	640	620	600	580	570	550	540	520	520
36	680	660	650	630	610	590	580	560	550	530	510	510
35	670	660	640	620	600	580	570	550	540	520	510	500
34	660	650	630	620	590	570	560	540	530	510	500	490
33	660	640	620	610	590	570	550	530	520	510	490	480
32	650	630	620	600	580	560	540	530	510	500	480	470
31	640	620	610	590	570	550	540	520	510	490	470	470
30	630	620	600	580	560	540	530	510	500	480	470	460
29	620	610	590	580	550	540	520	500	490	480	460	450
28	620	600	590	570	550	530	510	500	480	470	450	440
27	610	590	580	560	540	520	500	490	480	460	440	440
26	600	590	570	550	530	510	500	480	470	450	440	430
25	590	580	560	550	520	510	490	470	460	450	430	420
24	590	570	550	540	520	500	480	470	450	440	420	410
23	580	560	550	530	510	490	470	460	450	430	410	410
22	570	560	540	520	500	480	470	450	440	420	410	400
21	560	550	530	520	490	480	460	440	430	420	400	390
20	560	540	520	510	490	470	450	440	420	410	390	380
19	550	530	520	500	480	460	440	430	420	400	380	380
18	540	520	510	490	470	450	440	420	410	390	380	370
17	530	520	500	480	460	440	430	410	400	380	370	360
16	520	510	490	480	460	440	420	400	390	380	360	350
15	520	500	480	470	450	430	410	400	380	370	350	340
14	510	490	480	460	440	420	400	390	380	360	340	340
13	500	480	470	450	430	410	400	380	370	350	340	330
12	490	480	460	440	420	400	390	370	360	340	330	320
11	480	470	450	440	410	400	380	360	350	340	320	310
10	480	460	440	430	410	390	370	350	340	330	310	300
9	470	450	430	420	400	380	360	350	330	320	300	290
8	460	440	430	410	390	370	350	340	320	310	290	280
7	450	430	420	400	380	360	340	330	310	300	280	280
6	440	420	410	390	370	350	330	320	310	290	270	270
5	430	410	400	380	360	340	320	310	290	280	260	260
4	420	400	380	370	350	330	310	300	280	270	250	240
3	400	390	370	360	340	320	300	280	270	260	240	230
2	390	380	360	340	320	300	290	270	260	240	230	220
1	380	360	350	330	310	290	270	260	240	230	210	200
0	360	350	330	310	290	270	260	240	230	210	200	200
-1	350	330	310	300	280	260	240	220	210	200	200	200
-2	330	310	300	280	260	240	220	210	200	200	200	200
-3	310	300	280	260	240	220	210	200	200	200	200	200
-4	310	290	280	260	240	220	200	200	200	200	200	200
and below												

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

SAT Score Conversion Table

Form Codes AEQW, BWQW, CFQW

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	500	540	57
66	800			30	500	530	56
65	800			29	490	520	55
64	800			28	490	510	54
63	790			27	480	500	53
62	770			26	470	500	52
61	760			25	470	490	52
60	740			24	460	480	51
59	730			23	450	470	50
58	720			22	450	460	49
57	700			21	440	450	48
56	690			20	440	450	47
55	680			19	430	440	46
54	670	800		18	420	430	45
53	660	780		17	420	420	44
52	650	750		16	410	410	43
51	640	730		15	400	410	42
50	630	710		14	390	400	41
49	630	700	80	13	390	390	40
48	620	680	80	12	380	380	39
47	610	670	77	11	370	370	38
46	600	660	75	10	360	360	37
45	600	650	73	9	360	350	36
44	590	650	71	8	350	340	35
43	580	640	70	7	340	330	34
42	570	630	69	6	330	320	33
41	570	620	67	5	320	300	31
40	560	610	66	4	300	290	30
39	550	600	65	3	290	270	29
38	550	590	64	2	280	250	27
37	540	590	63	1	260	230	25
36	540	580	62	0	250	210	23
35	530	570	61	-1	230	200	21
34	520	560	60	-2	210	200	20
33	520	550	59	-3	200	200	20
32	510	550	58	and below			

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

SAT Writing Composite Score Conversion Table

Form Code CFQW

Writing MC Raw Score	Essay Raw Score											
	12	11	10	9	8	7	6	5	4	3	2	0
49	800	800	800	800	780	770	750	730	720	710	690	680
48	800	800	790	780	760	740	720	710	690	680	660	650
47	800	790	770	760	730	720	700	680	670	660	640	630
46	790	770	750	740	720	700	680	660	650	640	620	610
45	770	760	740	720	700	680	670	650	640	620	610	600
44	760	740	730	710	690	670	650	640	620	610	590	580
43	750	730	710	700	680	660	640	630	610	600	580	570
42	740	720	700	690	670	650	630	610	600	590	570	560
41	720	710	690	680	650	640	620	600	590	580	560	550
40	710	700	680	670	650	630	610	590	580	570	550	540
39	710	690	670	660	640	620	600	580	570	560	540	530
38	700	680	660	650	630	610	590	580	560	550	530	520
37	690	670	660	640	620	600	580	570	550	540	520	520
36	680	660	650	630	610	590	580	560	550	530	510	510
35	670	660	640	620	600	580	570	550	540	520	510	500
34	660	650	630	620	590	570	560	540	530	510	500	490
33	660	640	620	610	590	570	550	530	520	510	490	480
32	650	630	620	600	580	560	540	530	510	500	480	470
31	640	620	610	590	570	550	540	520	510	490	470	470
30	630	620	600	580	560	540	530	510	500	480	470	460
29	620	610	590	580	550	540	520	500	490	480	460	450
28	620	600	590	570	550	530	510	500	480	470	450	440
27	610	590	580	560	540	520	500	490	480	460	440	440
26	600	590	570	550	530	510	500	480	470	450	440	430
25	590	580	560	550	520	510	490	470	460	450	430	420
24	590	570	550	540	520	500	480	470	450	440	420	410
23	580	560	550	530	510	490	470	460	450	430	410	410
22	570	560	540	520	500	480	470	450	440	420	410	400
21	560	550	530	520	490	480	460	440	430	420	400	390
20	560	540	520	510	490	470	450	440	420	410	390	380
19	550	530	520	500	480	460	440	430	420	400	380	380
18	540	520	510	490	470	450	440	420	410	390	380	370
17	530	520	500	480	460	440	430	410	400	380	370	360
16	520	510	490	480	460	440	420	400	390	380	360	350
15	520	500	480	470	450	430	410	400	380	370	350	340
14	510	490	480	460	440	420	400	390	380	360	340	340
13	500	480	470	450	430	410	400	380	370	350	340	330
12	490	480	460	440	420	400	390	370	360	340	330	320
11	480	470	450	440	410	400	380	360	350	340	320	310
10	480	460	440	430	410	390	370	350	340	330	310	300
9	470	450	430	420	400	380	360	350	330	320	300	290
8	460	440	430	410	390	370	350	340	320	310	290	280
7	450	430	420	400	380	360	340	330	310	300	280	280
6	440	420	410	390	370	350	330	320	310	290	270	270
5	430	410	400	380	360	340	320	310	290	280	260	260
4	420	400	380	370	350	330	310	300	280	270	250	240
3	400	390	370	360	340	320	300	280	270	260	240	230
2	390	380	360	340	320	300	290	270	260	240	230	220
1	380	360	350	330	310	290	270	260	240	230	210	200
0	360	350	330	310	290	270	260	240	230	210	200	200
-1	350	330	310	300	280	260	240	220	210	200	200	200
-2	330	310	300	280	260	240	220	210	200	200	200	200
-3	310	300	280	260	240	220	210	200	200	200	200	200
-4	310	290	280	260	240	220	200	200	200	200	200	200
and below												

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