## 2020-21

## PSAT $8 / 9$

Student Guide
$\stackrel{+}{\underline{-1}}$
Important
information
about the
PSAT ${ }^{\text {TM }} 8 / 9$
$\square$
Test-taking advice and tips
$:=$ Directions
and sample test questions


## About College Board

College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success-including the $\mathrm{SAT}^{\oplus}$ and the Advanced Placement ${ }^{\oplus}$ Program. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools. For further information, visit collegeboard.org.

## PSAT 8/9 Customer Service

You can reach us from 8 a.m. to 9 p.m. Eastern Time, Monday to Friday (9 a.m. to 7 p.m. mid-June to mid-August).

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## Test-Taking Information

## Using This Guide

Taking the PSAT ${ }^{\text {TM }} 8 / 9$ is a great way to find out how ready you are for college and career. The test also connects you to College Board programs and services that can propel you to opportunities you've earned. We've created this guide to help you:

- Become familiar with the test so you're not surprised or confused on test day.
- Learn the test directions. The directions for answering the questions in this guide are the same as those on the actual test.
- Review the sample questions. The more familiar you are with the question formats, the more comfortable you'll feel when you see similar questions on the actual test. In particular, be sure to practice how to answer the student-produced response questions on the Math Test later in this guide.
- Be aware of what you need to know about taking this test. You must agree to the PSAT 8/9 Terms and Conditions on page 26 on test day. These terms and conditions have information on:
- Acceptable photo identification
- Required and prohibited items for testing
- Acceptable and unacceptable calculators
- Test security and fairness policies
- Phone and electronic device policies
- Privacy policies, including the use of student information


## How the PSAT 8/9 Is Organized

The PSAT 8/9 has 3 tests: the Reading Test, the Writing and Language Test, and the Math Test. The tests break down like this:

| Component | Time Allotted <br> (min.) | Number of <br> Questions |
| :--- | :---: | :---: |
| Reading | 55 | 42 |
| Writing and | 30 | 40 |
| Language | 60 | 38 |
| Math | 145 | 120 |
| Total |  |  |

As part of scoring, every test goes through an equating process. Equating is a statistical process we use to ensure that scores mean the same thing no matter which version of the test you take or when you take it. In order to assist with future testing, College Board may conduct research studies in connection with the testing of a subset of students.

Also, the test occasionally includes test questions for research purposes. These questions may appear in any of the test sections, and testing time will be extended by 20 minutes so students have time to answer them. These questions will not be included in computing your scores. Students must complete all sections of the test. If you leave before dismissal, your scores will be canceled.

## How the PSAT 8/9 Is Scored

All multiple-choice questions are scored by giving l point for each correct answer. No points are subtracted for incorrect answers or answers left blank. Hard questions count the same as easier questions. You won't lose any points for guessing, so try to answer every question. The table shows all the scores you'll receive on the PSAT 8/9.

| PSAT 8/9 Score Reported | Details | Score Range |
| :--- | :--- | :--- |
| Total Score | Sum of the 2 section scores | $240-1440$ |
| Section Scores (2) | - Evidence-Based Reading and Writing | $120-720$ |
|  | - Math |  |
| Test Scores (3) | - Reading | $6-36$ |
|  | - Writing and Language |  |
|  | - Math |  |

Your paper score report will include a total score, section scores, and test scores. The online score report will include cross-test scores and subscores as well. You'll be able to see not only how you did overall, but also where your strengths are and where you need to improve. Once you get your score report, if you are age 13 or over, visit studentscores.collegeboard.org to learn more about what these scores mean. All students can visit psat.org/89scores for general information about scoring.

Except if you're in the 8th grade or younger, your score report includes a message about your potential for success in $\mathrm{AP}^{\circledR}$ courses based on your scores.

Scores will become available based on when your school tests. If you haven't received your score report by late June, see your counselor. Your school will be able to print a copy for you.

## Create a College Board Account

If you're age 13 or over, create a free College Board account so you can access your PSAT 8/9 scores when they become available. Just visit collegeboard.org and click Sign up to get started.

## If You Need Testing Accommodations

If you have a disability that requires accommodations such as braille, extra breaks, or permission to test blood sugar, be sure to work with your school, which will determine which accommodations are appropriate.

IMPORTANT: Supports such as glossaries, translated test directions, and extended time are available for English learners. If you need English learner (EL) support, work with your school to ensure it will be there on test day.

## How to Prepare

The PSAT 8/9 measures the knowledge and skills you have developed in reading, writing and language, and math. Review the information in this guide, including the sample questions and directions, to become more familiar with the test. Go to collegeboard.org/ about-psat-8-9 to get more information about preparing for the test.

## Test Day Items

Though not required, consider bringing:

- Snacks and drinks (which must be under your desk during testing)
- Extra batteries and backup calculator


## What to Do If...

You know in advance that you cannot take the test on the date your school offers it: Tell your counselor as soon as possible that you have a conflict, such as a religious observance. You may be able to take the test at a nearby school that has selected a different test date. If you test at another school, be sure to take your school code and an acceptable photo ID with you, keeping your ID with you at all times, especially if you leave the testing room. (See the PSAT 8/9 Terms and Conditions on page 26 about acceptable photo identification.)

You are homeschooled and want to take the PSAT 8/9: Make arrangements in advance with your local school or another nearby school that is administering the test. (For a list of schools in your area, go to ordering.collegeboard.org/testordering/publicSearch.) If this is not possible, contact the PSAT $8 / 9$ office (see inside front cover).

You will be studying in another country when the test is given: Contact the PSAT 8/9 office and provide the name of the city and country and, if known, the name and address of the school you will be attending when the test is given. The PSAT $8 / 9$ office will send you instructions.

## Testing Guidelines

- Plan ahead and bring equipment that's in good working order. Testing staff might not have extra batteries or calculators.
- When marking answers:
- Use a No. 2 pencil with a soft eraser on all parts of the answer sheet. Do not use a pen or mechanical pencil.
- Make sure you fill in the entire bubble darkly and completely.
- Erase any changes you make as completely as possible.
- Store any snacks or drinks you bring out of sight in a paper bag under your desk. You may only eat snacks during breaks. The testing staff will tell you where you can go to have your snack.


## Privacy Policies

College Board recognizes the importance of protecting your privacy. Please review our privacy policies at collegeboard.org/privacy-center ("Privacy Policies") and the PSAT $8 / 9$ Terms and Conditions on page 26 to understand our collection, use, and disclosure of your personally identifiable information.

## Telemarketing Scams

We sometimes get reports of phone scams when callers posing as employees of College Board try to sell test preparation products or request sensitive, personally identifying information, such as credit card and Social Security numbers. College Board does not make unsolicited phone calls or send emails to students or families requesting this type of information. This type of activity, known as telemarketing fraud, is a crime.

## Test Fairness Review

All new PSAT $8 / 9$ test questions and complete new editions of the tests are reviewed by external, independent educators from throughout the United States. These reviews help ensure that the questions are unambiguous and relevant and that the language used is not offensive to or inappropriate for any particular group of students based on race/ethnicity or gender. Assessment staff ensure that the test as a whole includes references to men and women as well as to individuals from varied racial, ethnic, and cultural backgrounds. Statistical procedures are used to identify questions that are harder for a group of students to answer correctly than would be expected from their performance on other questions in the test; these questions are excluded from appearing on tests.

## Test Question Inquiries

If you find what you consider to be an error or an ambiguity in a test question, tell the test coordinator immediately after the test. You may also write to:

Assessment Design and Development College Board
250 Vesey Street
New York, NY 10281
Or email psatquestion@collegeboard.org.
In your inquiry, provide your name and mailing address, the date you took the PSAT 8/9, the name and address of the school where you took the test, the test section, the test question (as well as you can remember), and an explanation of your concern about the question.

The PSAT 8/9 Program will send you a written response after your inquiry has been reviewed thoroughly by subject-matter specialists.

IMPORTANT: We will not respond via email, so be sure to include your full name and mailing address.

## Makeup Testing

During bad weather, natural disasters, power outages, or other unusual conditions, test sites may be closed.

The following policies apply to makeup testing:

- The availability of makeup testing and the conditions that make test takers eligible to take a makeup test are at the sole discretion of College Board.
- You must take the entire PSAT 8/9 at a makeup test.
- Access to scores from makeup administrations may be delayed by several weeks.

Additional terms and conditions may apply to your makeup test.

## Useful Resources

We offer resources to help you find the best college and career for you, including:
BigFuture ${ }^{\text {TM }}$-Our website helps you plan for college and find the college that's best for you. Visit bigfuture.org.

Career Finder ${ }^{\mathrm{TM}}$-Want to make smart, informed decisions about your future major and career based on your passions and interests? Try this engaging online experience powered by our partnership with Roadtrip Nation ${ }^{\oplus}$. Visit roadtripnation.com/edu/careerfinder.

## Additional Information

Complete descriptions of the content of the test and information on test preparation and sample questions are provided in the PSAT 8/9 Student Guide ("Guide") and online at psat.org/8-9.
Additional Information on the SAT A primary purpose of the SAT is to determine how prepared students are to succeed, both in college and in career training programs. Extensive research on the predictive validity of the SAT has established its utility and value as a College Entrance Exam through studies on the relationship between SAT scores and first-year grade point average ("FYGPA"), retention, domain-specific course grades, GPA through each year of college, as well as completion. A 2019 national SAT Validity Study (collegereadiness.collegeboard.org/pdf/national-sat-validity-study.pdf), based on data from more than 223,000 students across 171 four-year colleges and universities, found the following:

- SAT scores are strongly predictive of college performance-students with higher SAT scores are more likely to have higher grades in college.
- SAT scores are predictive of student retention to their second year-students with higher SAT scores are more likely to return for their sophomore year.
- SAT scores and High School grade point average ("HSGPA") are both related to academic performance in college but tend to measure slightly different aspects of academic preparation. Using SAT scores in conjunction with HSGPA is the most powerful way to predict future academic performance.
- On average, SAT scores add $15 \%$ more predictive power above grades alone for understanding how students will perform in college.
- SAT scores help to further differentiate student performance in college within narrow HSGPA ranges.
- Colleges can use SAT scores to identify students who may be in need of academic support before they start college and throughout their college education by monitoring predicted versus actual performance and help position these students for success.


## Evidence-Based Reading and Writing

The Evidence-Based Reading and Writing section is composed of 2 tests that assess different but related skills and knowledge. The Reading Test gives you a chance to show how well you understand what you read. The Writing and Language Test asks you to revise and edit text.

## Reading Test Overview

- Total questions: 42 passage-based reading questions with multiple-choice responses.
- Time allotted: 55 minutes.
- Calculators may not be used or be on your desk.
- The questions often include references to direct you to the relevant part(s) of the passage(s).


## What the Reading Test Is Like

When you take the Reading Test, you'll read passages and interpret informational graphics. Then you'll use what you've read to answer questions. Some questions ask you to locate a piece of information or an idea stated directly. But you'll also need to understand what the author's words or a graphic's data imply.

## What You'll Read

Reading Test passages range in length from about 500 to 750 words and vary in complexity. The Reading Test includes:

- 1 passage from a classic or contemporary work of U.S. or world literature.
- 1 passage or a pair of passages from either a U.S. founding document (such as an essay by James Madison) or a text in the Great Global Conversation (such as a speech by Nelson Mandela).
- 1 passage on a social science topic from a field such as economics, psychology, or sociology.
- 2 science passages (or 1 passage and 1 passage pair) that examine foundational concepts or recent developments in Earth science, biology, chemistry, or physics.
- 2 passages accompanied by 1 or more informational graphics.


## What the Reading Test Measures

To succeed in college and career, you'll need to apply reading skills in all sorts of subjects. You'll also need those skills to do well on the Reading Test.
The Reading Test measures skills and knowledge you'll need to apply when reading in college and workforce training programs. The test will ask you to find and interpret information and ideas, analyze how texts are put together and why they're written the way they are, work with data from informational graphics, and make connections between paired passages.

You'll be asked questions that require you to draw on the reading skills and knowledge needed most to succeed in the subjects the passages are drawn from. For instance, you might read about an experiment and then see questions that ask you to examine hypotheses, interpret data, or consider implications.

Answers are based only on the content stated in or implied by the passages and in any supplementary material, such as tables and graphs.

## Command of Evidence

Some questions ask you to:

- Find evidence in a passage (or pair of passages) that best supports the answer to a previous question or serves as the basis for a reasonable conclusion.
- Identify how authors use (or fail to use) evidence to support their claims.
- Locate or interpret data in an informational graphic, or understand a relationship between a graphic and the passage it's paired with.


## Words in Context

Some questions focus on important, widely used words and phrases that you'll find in texts in many different subjects. The words and phrases are ones that you'll use in college and the workplace long after test day.

These questions focus on your ability to:

- Figure out the meaning of words or phrases in context.
- Decide how an author's word choice shapes meaning, style, and tone.


## Analysis in History/Social Studies and in Science

You'll be asked to read and analyze passages about topics in history/social studies and in science.

## Tips for the Reading Test

To answer each question, consider what the passage or passages say directly, and use careful reasoning to draw supportable inferences and conclusions from the passage(s). The best answer to each question is derived from what is stated or implied in the passage(s) rather than from prior knowledge of the topics covered. All of the questions are passage based.

- Reading carefully is the key to finding the best answer to each question. The information you need to answer each Reading Test question is always in the passage(s). Don't be misled by an answer that looks correct but isn't supported by the actual text of the passage(s).
- The questions don't increase in difficulty from easy to hard. Instead, they are presented as logically as possible. Questions about central ideas and themes, point of view, and overall text structure generally come early in the sequence. After that come more specific questions about such matters as facts, details, and words in context.
- Stay with a passage until you have answered as many questions as you can before you proceed to the next passage. Don't jump from passage to passage.
- The questions often include references to help direct you to relevant part(s) of the passage(s). You may have to look elsewhere in the passage, however, to find the best answer to the question.
- In your test booklet, mark each question you skip so you can easily go back to it later if you have time.
- Remember that all questions are worth 1 point regardless of the type or difficulty. You don't lose points for guessing wrong, so you should try to answer each question as best you can.


## Sample Reading Test Materials

Following are samples of the kinds of passages and questions that may appear on the Reading Test. For each set of sample materials:

- Read the passage(s) and any supplementary material carefully.
- Decide on the best answer to each question.
- Read the explanation for the best answer to each question and for the answer you chose (if they are different).

On the actual test, each passage will be followed by 8 or 9 questions. The directions that follow match the directions on the actual test.

## Reading Test Questions

## DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After reading each passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table or graph).

## US and World Literature Passage

Questions 1-4 are based on the following passage.
This passage is adapted from David Foster Wallace, "All That." © 2009 by Condé Nast.

Once when I was a little boy I received as a gift a toy cement mixer. It was made of wood except for its wheels-axles-which, as I remember, were thin although it was nowhere near the size of a wagon.

I liked the cement mixer and played with it as much as or more than I played with the other toy vehicles I owned. At some point, several weeks or 5 months after the holidays, however, my biological parents led me to believe that it was a magic and/ or highly unusual cement mixer. Probably my mother told me this in a moment of adult boredom or whimsy, and then my father came home from work and joined in, also in a whimsical way. The magic-which my mother likely reported to me from her vantage on our living room's sofa, while watching me pull the cement mixer around the room by its rope, idly asking me if I was aware that it had 5 magical properties, no doubt making sport of me in the bored half-cruel way that adults sometimes do with small children, playfully telling them things that they pass off to themselves as "tall tales" or "childlike inventions," unaware of the impact those 30 tales may have (since magic is a serious reality for small children). The "magic" was that, unbeknown to me,
as I happily pulled the cement mixer behind me, the mixer's main cylinder or drum-the thing that, in a real cement mixer, mixes the cement; I do not and around on its horizontal axis, just as the drum on a real cement mixer does. It did this, my mother said, only when the mixer was being pulled by me and only, she stressed, when I wasn't looking. She insisted on this part, and my father later backed her up: the magic was not just that the drum of a solid wood object without batteries rotated but that it did so only when unobserved, stopping whenever observed. If, while pulling, I turned to look, my parents somberly maintained, the drum magically ceased its rotation. How was this? I never, even for a moment, doubted what they'd told me. This is why it is that adults and even parents can, unwittingly, be cruel: they cannot imagine doubt's complete absence. They have forgotten.

The point was that months were henceforward spent by me trying to devise ways to catch the drum rotating. Evidence bore out what they had told me: turning my head obviously and unsubtly around always stopped the rotation of the drum. I also tried sudden whirls. I tried having someone else pull the cement mixer. I tried incremental turns of the head while pulling ("incremental" meaning turning my head at roughly the rate of a clock's minute hand). pulled the cement mixer. Even turning my head at the rate of the hour hand. I never doubted-it didn't occur to me. The magic was that the mixer seemed always to know. I tried mirrors-first pulling the 65 cement mixer straight toward a mirror, then through rooms that had mirrors at the periphery of my vision, then past mirrors hidden such that there was little chance that the cement mixer could even "know" that there was a mirror in the room. My strategies became very involved. I was in kindergarten and home half the day. The seriousness with which I tried must have caused my parents no little anguish of conscience.

## 1

The main purpose of the second paragraph (lines 5-11) is to
A) describe the toy cement mixer.
B) list the narrator's favorite toys.
C) show that simple toys are as fun as complicated ones.
D) explain why the narrator liked the toy cement mixer.

## Content: Rhetoric/Analyzing purpose

Focus: Students must determine the most likely purpose of a particular part of a text.

| Key: A | Estimated Difficulty: Easy |
| :--- | :--- |

Choice A is the best answer because the second paragraph primarily offers a description of the toy cement mixer. In the paragraph, the narrator describes the size, appearance, and mechanisms of the toy, noting, for example, that it was "about the size of a breadbox," had "a colored rope, with a yellow handle," and was pulled "rather like a wagon."
Choice $B$ is incorrect because although the narrator refers in the second paragraph to "many other toy vehicles" and compares the toy cement mixer to a wagon, he does not list his toys or indicate which toys were his favorites.

Choice $C$ is incorrect because although the narrator states in the second paragraph that the toy cement mixer was "a simple toy," he does not compare it to complicated toys or indicate that simple toys and complicated toys are equally fun to play with.
Choice $D$ is incorrect because although the narrator describes in the second paragraph the size, appearance, and mechanisms of the toy cement mixer, he does not explain why the mixer appealed to him.

2
The narrator's interest in trying to see the toy cement mixer's drum rotate can best be described as
A) momentary.
B) satisfying.
C) reluctant.
D) intense.

[^1]Choice $A$ is incorrect because the narrator indicates that he spent "months ... trying to devise ways to catch the drum rotating."

Choice $B$ is incorrect because the narrator describes as unintentionally cruel his biological parents' claim that the toy cement mixer's drum rotated and indicates that his parents must have experienced "no little anguish of conscience" after seeing how earnestly he believed the claim.

Choice $C$ is incorrect because the narrator's interest in seeing the drum rotate was so compelling that he spent "months ... trying to devise ways to catch the drum rotating" and because there is no evidence in the passage that the narrator felt any reluctance about the task he had set for himself.

## 3

Which choice provides the best evidence for the answer to the previous question?
A) Lines 31-37 ("The 'magic' ... does")
B) Lines 43-45 ("If ... rotation")
C) Lines 47-49 ("This ... absence")
D) Lines 51-53 ("The point $\ldots$ rotating")

Content: Information and Ideas/Citing textual evidence
Focus: Students must cite the textual evidence that best supports a given point.

\section*{| Key: D | Estimated Difficulty: Medium |
| :--- | :--- |}

Choice D is the best answer because in this sentence, the narrator states that after being told by his biological parents that the toy cement mixer's drum would only rotate when he was pulling the mixer and when he was not looking at it, he spent "months ... trying to devise ways to catch the drum rotating." That the narrator devoted a long period of time to numerous attempts to see the drum rotating suggests that his interest in seeing it rotate was very strong.
Choice $A$ is incorrect because this sentence reveals only that the narrator's biological parents told him that the toy cement mixer's drum would magically rotate as the narrator pulled the mixer. The sentence does not show that the narrator's interest in seeing the drum rotate was very strong.
Choice $B$ is incorrect because this sentence reveals only that the narrator's biological parents told him that the toy cement mixer's drum would stop its magical rotation whenever the narrator looked at it. The sentence does not show that the narrator's interest in seeing the drum rotate was very strong.
Choice $C$ is incorrect because this sentence focuses on the narrator's claim that parents can be unintentionally cruel when they fail to realize that children will unquestioningly believe what they say. Although the sentence suggests that the narrator did not doubt his biological parents' claim that the toy cement mixer was magical, it does not convey the strength of his interest in seeing the drum rotate.

4

As used in line 52, "catch" most nearly means
A) overtake.
B) receive.
C) witness.
D) meet with.

Content: Information and Ideas/Interpreting words and phrases in context
Focus: Students must determine the meaning of a word in context.
Key: C $\quad$ Estimated Difficulty: Medium
Choice C is the best answer because it is clear from this context that as a child, the narrator tried to find ways to witness, or observe, the toy cement mixer's drum rotating.

Choice $A$ is incorrect because it does not make sense in this context to say that as a child, the narrator tried to find ways to overtake, or physically catch up with and pass, the toy cement mixer's drum rotating.
Choice $B$ is incorrect because it does not make sense in this context to say that as a child, the narrator tried to find ways to receive, or take possession of, the toy cement mixer's drum rotating.
Choice $D$ is incorrect because it does not make sense in this context to say that as a child, the narrator tried to find ways to meet with the toy cement mixer's drum rotating.

## Writing and Language Test Overview

The Writing and Language Test asks you to be an editor and improve passages that were written especially for the test-and that include deliberate errors.

- Total questions: 40 passage-based questions with multiple-choice responses.
- Time allotted: 30 minutes.
- Calculators may not be used or be on your desk.


## What the Writing and Language Test Is Like

When you take the Writing and Language Test, you'll do things that people do all the time when they edit: read, find mistakes and weaknesses, and fix them.

The good news: You do these things every time you revise your own schoolwork or workshop your writing with a friend.

You will revise the passages on the test for development, organization, and effective language use as well as edit the passages to ensure they follow the conventions of standard written English grammar, usage, and punctuation.

## What You'll Read

Writing and Language passages range in length from about 350 to 400 words and vary in complexity. The passages you'll read will be informative/explanatory texts, nonfiction narratives, or arguments and will cover topics in the areas of careers, history/social studies, the humanities, and science. One or more passages will be accompanied by one or more informational graphics.

## What the Writing and Language Test Measures

The Writing and Language Test measures the skills and knowledge you use to spot and fix problems in writingthe same skills and knowledge you've been acquiring in school and that you'll need for success in college and career. All questions are multiple choice and based on passages and any supplementary material, such as tables and graphs.

## Command of Evidence

Questions that test command of evidence ask you to improve the way passages develop information and ideas. For instance, you might choose an answer that sharpens an argumentative claim or adds a relevant supporting detail.

## Words in Context

Some questions ask you to improve word choice. You'll need to choose the best words to use based on the text surrounding them. Your goal will be to make a passage more precise or concise or to improve syntax, style, or tone.

## Expression of Ideas

Some questions ask about a passage's topic development, organization, and language use. For instance, you may be asked which words or structural changes improve how a point is made or which phrase or sentence provides the most effective transition between ideas.

## Standard English Conventions

Some questions relate to aspects of the mechanics of writing: sentence structure, usage, and punctuation. You'll be asked to edit text so that it conforms to the conventions of standard written English.

## Analysis in History/Social

## Studies and in Science

You'll be asked to read and analyze passages about topics in history/social studies and in science and to make decisions that improve the passages (such as revising a paragraph to be more consistent with the data presented in an informational graphic).

## Tips for the Writing and Language Test

To answer some questions, you'll need to look closely at a single sentence. Others require thinking about the entire passage or interpreting a graphic. For instance, you might be asked to choose where a sentence should be placed or to correct a misinterpretation of a scientific table or graph.

- To make decisions that improve the passages, read the passages carefully.
- Rote recall of language rules isn't tested, nor are any questions based on short snippets of text taken
out of context. The best answer to each question represents how a writer should develop, organize, and use language in a multiparagraph passage. You are demonstrating that you can make context-based improvements to the text.
- The most common format for the questions offers 3 alternatives to an underlined portion of the passage along with the option of not changing the passage's original wording. Remember to answer these questions in the context of the whole passage.
- Stay with a passage until you have answered as many questions as you can before you proceed to the next passage. Don't jump from passage to passage.
- In your test booklet, mark each question you skip so you can easily go back to it later if you have time.
- Remember that all questions are worth 1 point regardless of the type or difficulty. You don't lose points for guessing wrong, so you should try to answer each question as best you can.


## Sample Writing and Language Test Materials

Following are samples of the kinds of passages and questions that may appear on the Writing and Language Test. For each set of sample materials:

- Read the passage carefully.
- Decide on the best answer to each question.
- Read the explanation for the best answer to each question and for the answer you chose (if they are different).

On the actual test, the passages and questions will be in side-by-side columns, with each passage (spread over multiple pages) in the left column and associated multiple-choice questions in the right column. The directions that follow match the directions on the actual test.

## Writing and Language Test Questions

## DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions will direct you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option. Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

## Careers Passage

Focus: Students must make revising and editing decisions in the context of a passage on a topic related to careers.

## Questions 1-4 are based on the following passage.

## The Online World of Job Searching

Job search sites, websites that help job seekers find open positions, have grown in popularity. These sites typically allow users to customize their job searches to focus on specific industries, employers, skills, or geographic areas. Many job search sites have features such as automatic alerts that will send job seekers an e-mail or text message when a relevant job has been posted. Knowing how to use these features and navigate the sites makes it much easier for job seekers to connect with employers.

For instance, job seekers can use a site to find the name of the hiring manager of a company and contact that manager directly. The job search website can also provide job seekers with valuable information about a company's mission and history. This information will help job seekers determine whether the company seems like a good fit for them.

Online job sites can also make it easier for employers to find job seekers. Another useful feature of these sites is that résumés can be made searchable, which means that employers can use a keyword search to select résumés for further consideration. This is why 2 I'm telling you what a big deal it is for job seekers to include in their résumés keywords such as "leadership" or "CPR certification" that describe their skills, training, and education.

Although job search sites can be very helpful, it's important to be selective and focused while using them. One mistake many inexperienced, and even experienced, job seekers sometimes make is to apply for jobs that are outside of their areas of expertise. This mistake can result in unanswered job applications and wasted time for both job seekers and employers. Perhaps for this reason, job coaches 3 reassure their clients to use job search websites sparingly. They recommend that job seekers spend most of the time they devote to job hunting on other activities, such as networking, and just 10 percent of their job-hunting time on these websites.
4 In other words, people spend almost triple that amount. A recent poll conducted by Climber.com revealed that job seekers spend 29.94 percent of their time looking for work on these sites.

Networking and face-to-face contact have always been important parts of any job search. However, when used strategically, job search websites can also be powerful tools for researching and ultimately finding a job.

## 1

Which choice, if added here, would most effectively establish the main topic of the paragraph?
A) Job seekers can think of job search websites as strategic "intelligence-gathering" tools.
B) New job postings are sometimes flagged to indicate that they're recent additions.
C) Instead of placing an advertisement in the "help wanted" section of a newspaper, an employer is more likely to post on an online job site.
D) Some people use online job sites just to become aware of job opportunities in their area, even if they're not actively looking for a new job.

Content: Development/Proposition
Focus: Students must add a topic sentence to structure text and convey information and ideas clearly and effectively.

## Key: A Estimated Difficulty: Hard

Choice $\mathbf{A}$ is the best answer because it would clearly establish the main topic of the paragraph: ways that job seekers can use job search websites to collect information about job opportunities and the companies associated with them.
Choice $B$ is incorrect because it would begin the paragraph with a detail that continues the previous paragraph's discussion of the features of job search sites and therefore would not clearly establish the main topic of the paragraph.

Choice $C$ is incorrect because it would begin the paragraph with a statement about employers and job search sites that is largely irrelevant to the focus of the paragraph and therefore would not clearly establish the main topic of the paragraph.
Choice $D$ is incorrect because it would begin the paragraph with a loosely related detail about how some people use job search sites and therefore would not clearly establish the main topic of the paragraph.
A) NO CHANGE
B) it's so huge
C) it's important
D) I cannot overemphasize how crucial it is

| Content: Effective language use/Style and tone |
| :--- |
| Focus: Students must revise text as necessary to ensure <br> consistency of style and tone within a text. <br> Key: C <br> Estimated Difficulty: Easy <br> Choice C is the best answer because "it's important" <br> is consistent with the established style and tone of <br> the passage, which is in the third person and provides <br> information formally and directly, without exaggeration. <br> Choice $A$ is incorrect because "I'm telling you what a big <br> deal it is" varies from the established style and tone of the <br> passage by shifting from third to first person and by using <br> overly casual language that suggests exaggeration. <br> Choice $B$ is incorrect because "it's so huge" varies from the <br> established style and tone of the passage by using overly <br> casual language that suggests exaggeration. <br> Choice $D$ is incorrect because "I cannot overemphasize how <br> crucial it is" varies from the established style and tone of the <br> passage by shifting from third to first person and by using <br> language that suggests exaggeration. |

A) NO CHANGE
B) encourage
C) energize
D) provoke

## Content: Effective language use/Precision

Focus: Students must revise text as needed to improve the exactness and content appropriateness of word choice.

| Key: B | Estimated Difficulty: Medium |
| :--- | :--- |

Choice B is the best answer because "encourage" is a contextually appropriate way to indicate that job coaches are offering their clients advice about how best to use job search websites.
Choice $A$ is incorrect because while "reassure" does offer some sense of job coaches' encouraging role in this context, it would be awkward and unconventional to say that job coaches reassure their clients to use job search websites sparingly.

Choice C is incorrect because while "energize" does offer some sense of job coaches' encouraging role in this context, it would be awkward and unconventional to say that job coaches energize their clients to use job search websites sparingly.

Choice $D$ is incorrect because it would be awkward and unconventional to say that job coaches "provoke" their clients to use job search websites sparingly.
A) NO CHANGE
B) Because of this,
C) In reality,
D) For example,

Content: Organization/Introductions, conclusions, and transitions

Focus: Students must revise text as needed to ensure that a transition phrase is used effectively to connect information and ideas.

## Key: C $\quad$ Estimated Difficulty: Medium

Choice C is the best answer because "in reality" effectively contrasts the recommendation in the previous sentence ("that job seekers spend ... just 10 percent of their job-hunting time on these websites") with the much higher amount people actually spend ("almost triple," "29.94 percent") presented in this and the next sentence.
Choice $A$ is incorrect because "in other words" improperly sets up a restatement (something said in a different, often simpler way than previously) and does not convey the necessary contrast between the recommended amount of time job seekers should spend on job search websites ("just 10 percent of their job-hunting time") and the much higher amount people actually spend ("almost triple," "29.94 percent").
Choice $B$ is incorrect because "because of this" suggests an illogical cause-effect relationship and does not convey the necessary contrast between the recommended amount of time job seekers should spend on job search websites ("just 10 percent of their job-hunting time") and the much higher amount people actually spend ("almost triple," " 29.94 percent").

Choice D is incorrect because "for example" sets up an example that does not actually appear in the sentence and does not convey the necessary contrast between the recommended amount of time job seekers should spend on job search websites ("just 10 percent of their job-hunting time") and the much higher amount people actually spend ("almost triple," "29.94 percent").

## Math

The PSAT 8/9 Math Test covers math practices, emphasizing problem solving, modeling, using tools strategically, and using algebraic structure. The questions test your ability to solve problems and use appropriate approaches and tools strategically.

## Math Test Overview

The Math Test includes a portion that allows the use of a calculator and a portion that does not.

- Total questions: 38 (13 questions on the nocalculator portion; 25 questions on the calculator portion).
- 31 standard multiple-choice questions.
- 7 student-produced response questions.
- Time allotted for Math Test - No Calculator: 20 minutes; time allotted for Math Test - Calculator: 40 minutes.


## What the Math Test Is Like

Instead of testing you on every math topic, the PSAT 8/9 asks you to use the math that you'll rely on most in all sorts of situations. Questions on the Math Test are designed to mirror the problem solving and modeling you'll do in:

- College math, science, and social science courses
- Jobs that you hold
- Your personal life

For instance, to answer some questions you'll need to use several steps because in the real world, a single calculation is rarely enough to get the job done.

- Most math questions will be multiple choice, but some-called student-produced responses-ask you to come up with the answer rather than select the answer.
- Some parts of the test include several questions about a single scenario.


## What the Math Test Measures

## Fluency

The Math Test is a chance to show that you:

- Carry out procedures flexibly, accurately, efficiently, and strategically.
- Solve problems quickly by identifying and using the most efficient solution approaches.

This might involve solving a problem by inspection, finding a shortcut, or reorganizing the information you've been given.

## Conceptual Understanding

You'll demonstrate your grasp of math concepts, operations, and relations. For instance, you might be asked to make connections between properties of linear equations, their graphs, and the contexts they represent.

## Applications

Some real-world problems ask you to analyze a situation, determine the essential elements required to solve the problem, represent the problem mathematically, and carry out a solution.

## Calculator Use

Calculators are important tools, and to succeed after school, you'll need to know how-and when-to use them. In the Math Test - Calculator portion of the test, you'll be able to focus on complex modeling and reasoning because your calculator can save you time.

However, using a calculator, like any tool, isn't always the best way to solve a problem. The Math Test includes some questions that it's better not to use a calculator for, even though you're allowed to. With these questions, you'll probably find that the structure of the problem or your reasoning skills will lead you to the answers more efficiently.

## Calculator Smarts

- Bring your own calculator. You can't share one.
- Don't bring a calculator you've never used before. Bring one you know. Practice for the test using the same calculator you'll use on test day.
- It may help to do scratch work in the test book. Get your thoughts down before using your calculator.
- Make sure your calculator is in good working order with fresh batteries. The testing staff might not have batteries or extra calculators. If your calculator fails during testing and you have no backup, you can complete the test without it. All questions can be answered without a calculator.


## Answering StudentProduced Response Questions

You'll see directions in the test book for answering student-produced response questions. (See page 22 for an example.) Take the time to be comfortable with the format before test day. Carefully read the directions for answering these questions. The directions explain what you can and can't do when entering your answers on the answer sheet.

## Tips for the Math Test

- Familiarize yourself with the directions ahead of time.
- You don't have to memorize formulas. Commonly used formulas are provided with the test directions at the beginning of each Math Test portion. Other formulas that are needed are provided with the test questions themselves. It's up to you to decide which formula is appropriate to a question.
- Read the problem carefully. Look for key words that tell you what the problem is asking. Before you solve each problem, ask yourself these questions: What is the question asking? What do I know?
- With some problems, it may be useful to draw a sketch or diagram of the given information.
- Use the test booklet for scratch work. You're not expected to do all the reasoning and figuring in your head. You won't receive credit for anything written in the booklet, but you'll be able to check your work easily later.
- In the portion of the test that allows calculator use, be strategic when choosing to use your calculator.
- If you don't know the correct answer to a multiplechoice question, eliminate some of the choices. It's sometimes easier to find the wrong answers than the correct one. On some questions, you may even be able to eliminate all the incorrect choices. Remember that you won't lose points for incorrect answers, so plan to make your best guess if you don't know the answer.
- Check your answer to make sure it's a reasonable reply to the question asked. This is especially true for student-produced response questions, where no answer choices are given.


## Sample Math Test Materials

The sample math questions that follow show the kinds of questions that may appear on both portions of the Math Test. For these sample materials:

- Review the notes at the beginning of each portion. They match the notes on the actual test.
- Decide on the correct answer to each multiple-choice question, then read the explanation for the correct answer to each question and for the answer you chose (if they are different).
- Follow the directions for the student-produced response questions shown later in this guide. The directions match the directions on the actual test.


## Math Test - No Calculator Questions

## DIRECTIONS

For questions 1-2, solve each problem, choose the best answer from the choices provided, and fill in the corresponding bubble on your answer sheet. For question 3, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 3 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

## NOTES

1. The use of a calculator is not permitted.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function $f$ is the set of all real numbers $x$ for which $f(x)$ is a real number.

## REFERENCE


$A=\pi r^{2}$
$C=2 \pi r$

$A=\ell w$

$A=\frac{1}{2} b h$


Special Right Triangles

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


$V=\ell w h$

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

$V=\frac{4}{3} \pi r^{3}$

$V=\frac{1}{3} \pi r^{2} h$

$V=\frac{1}{3} \ell w h$

The number of degrees of arc in a circle is 360 .
The number of radians of arc in a circle is $2 \pi$.
The sum of the measures in degrees of the angles of a triangle is 180 .

A banquet hall is divided into two sections that both have tables with chairs arranged around them. In the smaller section, there are 9 tables with 6 chairs each. In the larger section, there are currently 4 tables with 8 chairs each. More tables, each with 8 chairs, will be added to this larger section so that there will be 126 total chairs in the banquet hall. Which equation could be used to determine how many more tables, $t$, each with 8 chairs, are needed in the larger section?
A) $(6)(4+9)+8 t=126$
B) $9(t+4)+6(8)=126$
C) $6(9)+8(t+4)=126$
D) $(9+4+t)(6+8)=126$

Content: Heart of Algebra/Linear equations in one variable
Focus: Students must interpret a given scenario and create an equation in one variable to represent the scenario.

## No Calculator

| Key: C | Estimated Difficulty: Medium |
| :--- | :--- |

Choice C is correct. The smaller section of the banquet hall has 9 tables with 6 chairs each, so the total number of chairs in that section is (6)(9). In the larger section, there are currently 4 tables and $t$ more will be added, so the total number of tables will be ( $t+4$ ). If each of these tables has 8 chairs, the number of chairs in the larger section is $8(t+4)$. The total number of chairs in the banquet hall can be found by adding the number of chairs in the smaller section to the number of chairs in the larger section, and it is given that the total number of chairs in the banquet hall is 126 , so the equation (6) 9$)+8(t+4)=126$ is the correct answer.

Choice $A$ is incorrect. This answer is the result of correctly identifying that each new table, $t$, will have 8 chairs and that each of the 9 tables in the smaller section will have 6 chairs, but incorrectly calculating that each of the 4 tables currently in the larger section has 6 chairs, rather than the correct number of 8 chairs each.

Choice $B$ is incorrect. This answer is the result of finding the product of the number of tables in each section and adding it to the product of the number of chairs at a table in each section.

Choice $D$ is incorrect. This answer is the result of multiplying the total number of tables in the banquet hall by the sum of the number of chairs at each size of table.

The amount of energy used by a light, in kilowatthours, is calculated by multiplying the number of kilowatts of the light's bulb by the number of hours the light is on. The expression $0.075 x+0.060 y$ represents the total amount of energy used by two different lights, A and B , where $x$ is the number of hours Light A is on and $y$ is the number of hours Light B is on. What does 0.075 represent in the expression?
A) Light A has a 0.075 kilowatt bulb in it.
B) Light A has a 75 kilowatt bulb in it.
C) Light B has a 0.075 kilowatt bulb in it.
D) Light B has a 75 kilowatt bulb in it.

Content: Passport to Advanced Math/Nonlinear functions
Focus: Students must demonstrate conceptual understanding and interpret the meaning of a constant in terms of the given context.
No Calculator

| Key: A | Estimated Difficulty: Medium |
| :--- | :--- |

Choice A is correct. The given expression represents the total amount of energy, in kilowatt-hours, used by the two lights, A and B. Because $x$ represents the number of hours that Light $A$ is on, $0.075 x$ represents the total number of kilowatt-hours used by Light A. Therefore, it follows that the coefficient, 0.075 , must represent the number of kilowatts of Light A's bulb.
Choice B is incorrect. This answer may be the result of correctly identifying that the coefficient associated with the variable $x$ is related to the energy output of Light A's bulb; however, the coefficient has been erroneously multiplied by 1,000 .
Choice $C$ is incorrect. This answer may be the result of erroneously assigning $x$ to be the number of hours that Light $B$ is on; $x$ is actually defined in the question as the number of hours that Light A is on.
Choice $D$ is incorrect. This answer may be the result of both erroneously assigning $x$ to be the number of hours that Light $B$ is on (instead of Light A) and also erroneously multiplying the coefficient by 1,000 .

## DIRECTIONS

For question 3, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

## NOTES

1. 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 bubbles accurately. You will receive credit only if the bubbles are filled in correctly.
2. Mark no more than one bubble in any column.
3. No question has a negative answer.
4. Some problems may have more than one correct answer. In such cases, grid only one answer.
5. Mixed numbers such as $3 \frac{1}{2}$ must be gridded as 3.5
 interpreted as $\frac{\text { © }}{2}$, not $3 \frac{1}{2}$.)
6. 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.

## 3

$$
\begin{aligned}
& 2 x+3 y=14 \\
& 3 x=y+10
\end{aligned}
$$

If $(x, y)$ satisfies the system of equations above, what is the value of $y$ ?

Content: Heart of Algebra/Systems of two linear equations in two variables

Focus: Students must demonstrate fluency in solving systems of equations in two variables.

| Key: 2 | Estimated Difficulty: Medium |
| :--- | :--- |

There are many approaches to solve the system given. One approach is to rewrite the second equation as $y=3 x-10$ and to substitute this value of $y$ into the first equation. This yields $2 x+3(3 x-10)=14$, which can be rewritten as $11 x-30=14$. Adding 30 to both sides and then dividing by 11 gives $x=4$. If this value of $x$ is substituted into the equation $y=3 x-10$, it results in $y=12-10=2$. Therefore, the solution $(x, y)$ to the system of equations is $(4,2)$ and the value of $y$ in the solution is 2 .


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


Answer: 201- either position is correct


NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.

## Math Test - Calculator Questions

## DIRECTIONS

For questions 1-3, solve each problem, choose the best answer from the choices provided, and fill in the corresponding bubble on your answer sheet. For question 4, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 4 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

## NOTES

1. The use of a calculator is permitted.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function $f$ is the set of all real numbers $x$ for which $f(x)$ is a real number.

## REFERENCE



$$
\begin{aligned}
& A=\pi r^{2} \\
& C=2 \pi r
\end{aligned}
$$


$A=\ell w$

$A=\frac{1}{2} b h$
$c^{2}=a^{2}+b^{2}$


Special Right Triangles

$V=\ell w h$

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

$V=\frac{4}{3} \pi r^{3}$

$V=\frac{1}{3} \pi r^{2} h$

$V=\frac{1}{3} \ell w h$

The number of degrees of arc in a circle is 360 .
The number of radians of arc in a circle is $2 \pi$.
The sum of the measures in degrees of the angles of a triangle is 180.

## 1

A real estate broker earns a fixed percentage of the selling price of a house as a commission. The broker sold a house for $\$ 278,000$ and earned a commission of $\$ 16,680$. What would the broker's commission be on a house that sells for $\$ 324,000$ ?
A) $\$ 14,311$
B) $\$ 19,440$
C) $\$ 46,000$
D) $\$ 62,680$

Content: Problem Solving and Data Analysis/Ratios, rates, proportional relationships, and units
Focus: Students must use a proportional relationship between two variables to solve a multistep problem in an applied scenario.

## No Calculator

Key: B $\quad$ Estimated Difficulty: Easy
Choice B is correct. The rate of the commission can be found by setting up a proportion comparing the commission on each sale to the selling price of each house, $\frac{16,680}{278,000}=\frac{x}{324,000}$. Cross-multiplying produces the equation $278,000 x=(16,680)(324,000)$, which results in $x=19,440$. Therefore, the amount of commission that will be earned for a house with a selling price of $\$ 324,000$ is \$19,440.
Choice $A$ is incorrect. This answer may be the result of incorrectly setting up the proportion as $\frac{16,680}{324,000}=\frac{x}{278,000}$, solving
$16,680 \times 278,000=324,000 x$, and then rounding the answer down to $\$ 14,311$.
Choice $C$ is incorrect. This answer may be the result of not using a proportion, but instead finding the difference in the two selling prices, yielding $324,000-278,000=46,000$.
Choice D is incorrect. This answer may be the result of not using a proportion, but instead subtracting the two selling prices ( $324,000-278,000=46,000$ ) and then adding the commission from the first sale $(46,000+16,680=62,680)$.

## Questions 2 and 3 refer to the following information.

The scatterplot below shows the relationship between the speed of a certain vehicle, in miles per hour, and its fuel economy, in miles per gallon.


2
Based on the scatterplot, over which speed intervals, in miles per hour, does the relationship between the speed and fuel economy appear to be negative?
A) 5-25 and 40-50
B) 15-35 and 40-50
C) 20-35, 40-55, and 60-75
D) 25-40, 50-55, and 60-75

Content: Problem Solving and Data Analysis/Two-variable data: models and scatterplots

Focus: Students must carefully inspect the scatterplot to determine the interval of speed that meets the required criteria.

| Key: D | Estimated Difficulty: Medium |
| :--- | :--- |

Choice D is correct. The relationship is negative when the $y$-values consistently decrease as the $x$-values increase. Visual inspection of the scatterplot shows a negative relationship for the data points over the following speed intervals: 25 to 40,50 to 55 , and 60 to 75 miles per hour.
Choice $A$ is incorrect. This answer corresponds to intervals of speed over which the relationship between the speed and fuel economy appears to be positive.
Choice $B$ is incorrect. This answer corresponds to intervals of speed over which the relationship between the speed and fuel economy is not always negative.
Choice $C$ is incorrect. This answer corresponds to intervals of speed over which the relationship between the speed and fuel economy is not always negative.

3
Based on the trend in the data shown for a car traveling between 5 and 20 miles per hour, which of the following is the best estimate of the fuel economy, in miles per gallon, for the vehicle when it travels 17 miles per hour?
A) 48
B) 44
C) 40
D) 36

Content: Problem Solving and Data Analysis/Two-variable data: models and scatterplots

Focus: Students must estimate a line of best fit for a given interval and then use the line to make a prediction about a value within the interval.

## Calculator

| Key: B | Estimated Difficulty: Medium |
| :--- | :--- |

Choice B is correct. From visual inspection of a plausible line of best fit in the interval of 5 to 20 miles per hour ( mph ), the student can determine that the best estimate of the fuel economy at 17 mph will be greater than 40 miles per gallon $(\mathrm{mpg})$ and less than 45 mpg , which leaves 44 mpg as the best estimate among the given choices.

Choice $A$ is incorrect. The data points over the interval from 5 to 20 miles per hour ( mph ) have a positive linear trend. This means that over this interval, as the speed increases, the fuel economy also increases. Similarly, as the speed decreases, the fuel economy also decreases. The data point at 20 mph corresponds to a fuel economy of 48 miles per gallon (mpg). Therefore, based on the line of best fit for the interval from 5 to 20 mph , it is likely that the fuel economy corresponding to a data point at 17 mph would be lower than 48 mpg .
Choice $C$ is incorrect. The data points over the interval from 5 to 20 miles per hour ( mph ) have a positive linear trend. This means that over this interval, as the speed increases, the fuel economy also increases. The data point at 15 mph corresponds to a fuel economy that is just over 40 miles per gallon (mpg). Therefore, based on the line of best fit for the interval from 5 to 20 mph , it is likely that the fuel economy corresponding to a data point at 17 mph would be higher than 40 mpg .
Choice $D$ is incorrect. The data points over the interval from 5 to 20 miles per hour ( mph ) have a positive linear trend. This means that over this interval, as the speed increases, the fuel economy also increases. The data point at 15 mph corresponds to a fuel economy that is just over 40 miles per gallon (mpg). Therefore, based on the line of best fit for the interval from 5 to 20 mph , it is likely that the fuel economy corresponding to a data point at 17 mph would be higher than 40 mpg and consequently higher than 36 mpg .

For question 4, solve the problem and enter your answer in the grid, as described on page 22.

If $f(x)=4-x$ and $g(x)=2 x^{2}-1$, what is the value of $f(1)-g(1)$ ?

| Content: Passport to Advanced Math/Nonlinear functions |
| :--- |
| Focus: Students must use function notation to solve a <br> conceptual problem. <br> Calculator <br> Key: 2$\quad$ Estimated Difficulty: Hard |

The problem states that $f(x)=4-x$. The value of $f(1)$ can be found by substituting $x=1$ into the expression for $f(x)$, so $f(1)=4-1=3$. It is also stated that $g(x)=2 x^{2}-1$, and so $g(1)=2(1)^{2}-1=1$. It follows, then, that $f(1)-g(1)=3-1=2$.

## PSAT 8/9 Terms and Conditions

## Introduction

These Terms and Conditions ("Terms and Conditions" or "Agreement") are a legal contract between you and College Board ("College Board" or "we"). They set forth important rules and policies you must follow related to taking the PSAT 8/9. Please read these carefully.
All disputes between you and College Board will be resolved through binding arbitration in accordance with Section 9 of this Agreement.

## Section 1. Certification

By registering for and/or taking the PSAT 8/9, you certify that (i) you have read, understand, and agree to be bound and abide by these Terms and Conditions, and (ii) the information you provide to College Board is accurate.

## Section 2. Required and Prohibited Items for Testing

a. You must bring the following items to the PSAT 8/9 in accordance with collegereadiness.collegeboard.org/ psat-8-9/taking-the-test/test-day-checklist:

- Valid school or government issued photo ID (for students not testing at their own school)
- Two No. 2 pencils that have erasers
- Acceptable calculator (as set forth later in this section) for math sections/tests where they are allowed
- Earphones, only if you're approved for assistive technology-compatible or MP3 audio accommodations
" Epinephrine auto-injector (e.g., EpiPen ${ }^{\circledR}$ ) in a clear plastic bag if you need one
b. You may not bring prohibited items to the test. Prohibited items include but aren't limited to:
- Mobile phones, smartwatches, fitness trackers, or other wearable technology (simple nondigital watches are acceptable)
- Audio players or recorders, tablets, laptops, notebooks, Bluetooth devices (e.g., wireless earbuds/ headphones), or any other personal computing devices
- Separate timers of any type
- Cameras or any other photographic equipment
- Pens, highlighters, or mechanical or colored pencils
- Books or references of any kind except as approved as an English learner (EL) support for school day administrations
- Compasses, rulers, protractors, or cutting devices
- Papers of any kind, including scratch paper
- Earplugs
- Unacceptable calculators that have computer-style (QWERTY) keyboards, use paper tape, make noise, or use a power cord
- Weapons or firearms
c. Acceptable Calculators. Only battery-operated, handheld equipment can be used for testing. No power cords are allowed. If you have a calculator with characters that are 1 inch or higher, or if your calculator has a raised display that might be visible to other test takers, you will be seated at the discretion of the testing staff. All scientific calculators, which can perform complex mathematical functions but don't have a graphing feature, are acceptable as long as they don't have any prohibited features. For a list of acceptable calculators, see collegereadiness.collegeboard.org/ psat-8-9/taking-the-test/test-day-checklist/approvedcalculators. No other calculators are permitted.
d. If you do not bring the required items, or if you bring prohibited items, you may be denied admission to or be dismissed from the test center; in addition, we may decline to score your test, or cancel your score.


## Section 3. Prohibited Behaviors

a. You may not engage in the following prohibited behaviors:

- Attempt to cheat or otherwise obtain an unfair advantage on the PSAT 8/9
- Take or attempt to take any test questions or responses or any notes from the testing room, including through memorization, give them to anyone else, or discuss them with anyone else through any means, including, but not limited to, email, text messages, or the internet
- At any time, improperly access the test center, the test (or any part of the test), an answer key, or any information about the test
- Refer to, look through, or work on a test section in the test book or answer sheet, other than during the testing period for that test or test section
- Refer to, or look through, any test or test section while leaving the answer sheet blank
- Attempt to give or receive assistance, including by copying or through the use of an answer key
- Discuss or share information about the test including questions, answers, identifying information about the version or form of a test, or any other information that might compromise the security of the test at any time (including before the test, during the test, during breaks, or after the test)
- Communicate with other test takers or other individuals in any form while testing is in session
- Allow anyone to see the test questions or your answers or attempt to see or copy others' test questions or answers
- Consult notes, other people, electronic devices, textbooks, or any other resources during the test or during breaks
- Use or access any prohibited items including devices or aids such as, but not limited to, mobile phones, smartwatches, other oral or written communication devices or wearable technology, cameras, notes and reference books, etc., during or in connection with the test, including during breaks
- Fail to turn in or store away a mobile phone in accordance with the test center's collection process
- Share a calculator with another person
- Use a calculator on a test or test section where they are not allowed
- Use a prohibited calculator
" Leave the testing room without permission and prior to the conclusion of all sections of the test
- Go to a locker or leave the building at any time during the test administration, including during breaks
- Deliberately attempt to and/or take the test for someone else or attempt to have someone else impersonate you to take the test
- Deliberately create fake or multiple College Board student accounts
- Provide false information to College Board
- Disturb others
- Consume food or drink in unauthorized areas
- Exhibit confrontational, threatening, or unruly behavior
- Allow an alarm or a personal item to sound in the testing room
- Fail to follow any of the test administration rules set forth in these Terms and Conditions or directions given by the testing staff


## Section 4. Score Cancellation and Disciplinary Measures

a. Score Cancellation and Disciplinary Measures. In the event that College Board or Educational Testing Service ("ETS") determine that your scores are invalid under section 4(b) below, or you have engaged in Misconduct under section 4(c) below, we may, in our sole discretion, take 1 or more of the following measures ("Measures"): deny you entry to a test administration, dismiss you from the test, decline to score your test, cancel your scores, ban you from taking future College Board assessments (including without limitation the Advanced Placement ("AP") exams), and/or share information with others as set forth in 4(f) below.
b. Invalid Scores. We may cancel your scores and/ or take any of the other Measures described above, if after following the procedures set forth in this section, we determine, in our sole discretion, that there is substantial evidence that your scores are invalid ("Invalid Scores"). Examples of evidence of Invalid Scores include, without limitation, discrepant handwriting, unusual answer patterns, or other evidence that violations of these Terms and Conditions may have occurred. Before canceling your scores under this Invalid Scores section, we will notify you in writing (via email if an email address is available) and provide you with an opportunity to submit written information to us to help resolve our inquiry. If, after review of the information by College Board's review panel, it determines, in its sole discretion, that your scores are invalid, we will offer you 2 options: voluntary score cancellation, or arbitration as set forth in the Arbitration of Disputes section in these Terms and Conditions. This process is referred to as the "Score Validity Process." Additional information about the Score Validity Process is set forth in sat.org/test-security. The arbitration option is available only for tests administered in the United States and U.S. Territories.
c. Misconduct. Notwithstanding section 4(b) above, if we determine, in our sole discretion, that there is overwhelming evidence that you violated these Terms and Conditions ("Misconduct"), the Score Validity Process will not apply and we may cancel your scores and/or take any of the Measures described above. An example of Misconduct might include overwhelming evidence that you used or attempted to use an answer key or mobile phone. Misconduct may be established in various ways including, without limitation, through observations during an administration, or by evidence discovered afterwards. If your scores are canceled due to Misconduct, you will forfeit test and registration fees.
d. Testing Irregularities. We may cancel your scores if we determine, in our sole discretion, that a Testing Irregularity occurred ("Testing Irregularities"). Examples of Testing Irregularities include problems or irregular circumstances, or events associated with the administration of a test; they may affect 1 test taker or groups of test takers. Such problems include, without limitation, administrative errors (e.g., improper timing, improper seating, improper admission to a test center, providing accommodations not approved by College Board, defective materials, and defective equipment), evidence of possible preknowledge of secure test content, and disruptions of test administrations caused by events such as natural disasters, epidemics, wars, riots, civil disturbances, or other emergencies. When Testing Irregularities occur, we may cancel an entire administration or individual registrations, decline to score all or part of the test, or cancel scores. We may do this regardless of whether you caused the Testing Irregularities, benefited from them, or violated these Terms and Conditions. We may, in our sole discretion, give you the opportunity to take the test again within a reasonable timeframe, and without charge. This is the sole remedy that may be available to you as a result of Testing Irregularities. You may not review scores from an affected administration before choosing the option of taking a makeup test.
e. Test Taker Reporting Misconduct or Suspicious Behavior. You may confidentially report any suspected violation of the PSAT $8 / 9$ Terms and Conditions, or any suspicion concerning the security of a PSAT $8 / 9$ test administration, by immediately contacting the Office of Testing Integrity by phone at $609-406-5430$, or by emailing us at testsecurity@info.collegeboard.org.
f. College Board Sharing Information with Third Parties. We may share the results of test security investigations (including without limitation those relating to Misconduct and Invalid Scores described above, and other disciplinary-related information), with third parties, including with your school, any score recipient, college, higher education institution or agency, scholarship organization, potential score recipient, government agency in the United States or abroad, parents, legal guardians, or law enforcement. College Board may also share such information with third parties that have a legitimate reason for knowing the information or who may be able to assist College Board in its investigation or who may be conducting their own investigation. College Board may also respond to inquiries from any institution to whom you submitted a score. If you publicize any review, investigation, or decision of College Board, College Board may make any and all details of such matter public.

## Section 5. Privacy

a. Privacy Policies. College Board recognizes the importance of protecting your privacy. Our privacy policies located at collegeboard.org/privacy-center ("Privacy Policies") are part of these Terms and Conditions. You consent to College Board collection, use, and disclosure of your personally identifiable information described in the Privacy Policies and in these Terms and Conditions. College Board may update its Privacy Policies from time to time and they are subject to change up to 1 week prior to your test date and any subsequent test dates for which you register. You are required to review the Privacy Policies located at collegeboard.org/privacy-center prior to each test administration.
b. Educational Reporting. We send your scores and other information you provide during testing to your school and district. In addition, your scores may be sent to your state for educational, diagnostic, and/or reporting purposes. (Homeschooled students' scores won't be shared with the school that administers the test.)

## Section 6. Miscellaneous

a. In the event of a test security related concern, public health threat, natural disaster, terrorist act, civil unrest, or other unexpected events or circumstances, College Board may cancel testing for all or a specific group of test takers. When this occurs your school or testing location will work with College Board to request an alternate test date or provide other options for testing.
b. To ensure the integrity of the PSAT $8 / 9$, for security reasons, or for other reasons in our sole discretion, College Board reserves the right to bar any individual or group of individuals from registering for and/or taking any College Board assessment.
c. If College Board becomes aware that you or someone else may be in imminent danger, we reserve the right to contact the appropriate individuals or agencies, including your parents, guardians, high school, or law enforcement agencies.
d. College Board or its designee may use methods to capture images, video, or audio at any or all test centers to help ensure test security. The resulting images or recordings, which may permit College Board to identify specific individuals, may be collected, stored, reviewed, and used for the purposes of (1) identifying, collecting evidence of, and/or investigating possible PSAT 8/9 test security incidents; (2) enhancing PSAT $8 / 9$ test security. These images and/or recordings are maintained following the test administration for as long as reasonably necessary for the purposes specified. Thereafter, the images and recordings are securely destroyed. College Board will not use or disclose such information except as described earlier in this section, as requested by law enforcement, and/or as reasonably necessary to protect the rights and property of College Board or third parties.
e. College Board occasionally pretests new questions to determine if they should be included in a future PSAT 8/9 test. These questions may appear in any of the test sections, and testing time will be appropriately extended so you have time to answer them. They will not be included in computing your scores. Scored test items (questions) and entire test forms may be used in more than 1 test administration.
f. After the PSAT 8/9, we may send you an email invitation requesting you to participate in a test experience survey or to answer sample test questions. If you provide us with an email address, you may receive an invitation via email. Participation is optional and will not affect your scores.
g. College Board takes steps to ensure that answer sheets are properly handled and scored. In the unlikely event of a problem with shipping or processing answer sheets, or score reports, or with scoring the test, or score reporting, College Board will correct the error, if possible, and may schedule a makeup test for impacted test takers. This is your sole remedy in relation to such issues. College Board has sole discretion in determining whether to score lost answer sheets that are eventually recovered.
h. All personal property brought into the test center, such as purses, bags, backpacks, mobile phones, and calculators and other electronic devices, may be subject to search at the discretion of College Board, ETS, and testing staff. College Board, ETS, and testing staff may confiscate and retain for a reasonable period of time any personal property suspected of having been used, or capable of being used, in violation of our test security and fairness policies, for further investigation.
i. College Board and the test center will not be responsible for personal property, including prohibited items, brought to the test center on test day that becomes lost, stolen, or damaged.
j. Each College Board contractor is a third-party beneficiary and is entitled to the rights and benefits under this Agreement and may enforce the provisions of this Agreement as if it were a party to this Agreement.

## Section 7. Policies and Requirements

a. All College Board policies and requirements (i) referenced in these Terms and Conditions and (ii) relating to taking the PSAT 8/9 at collegereadiness. collegeboard.org/psat-8-9/taking-the-test and scores at collegereadiness.collegeboard.org/psat-8-9/scores are part of these Terms and Conditions.
b. College Board may update its policies and requirements from time to time, and they are subject to change up to 1 week prior to your test date and any subsequent test dates you register for. You are required to review these prior to each test administration.

## Section 8. Intellectual Property Rights

a. All College Board tests, test-related documents and materials, and test preparation materials are copyrighted works owned by College Board and protected by the laws of the United States and other countries.
b. College Board owns all answers and answer documents you submit, and these may be used by College Board for any purpose, subject to College Board Privacy Policies located at collegeboard.org/privacy-center and these Terms and Conditions.

## Section 9. Arbitration of Disputes

a. General Arbitration Rules ("General Arbitration Rules")

- All disputes between you and College Board and/ or any or all of its contractors that relate in any way to registering for or taking the PSAT 8/9, including but not limited to requesting or receiving test accommodations, score reporting, the use of your data, test security issues, or the Score Validity Process, but excluding all claims that a party violated the intellectual property rights of the other party, shall exclusively be resolved by a single arbitrator through binding, individual arbitration administered by the American Arbitration Association (" $A A A$ ") under the AAA Consumer Arbitration Rules in effect at the time a request for arbitration is filed with the AAA. Copies of the AAA Rules can be located at adr.org.
- Disputes relating to the Score Validity Process (defined in the "Invalid Scores" section above) are subject to both these General Arbitration Rules and the Supplemental Arbitration Rules defined below. If there is a conflict between the General Arbitration Rules and the Supplemental Arbitration Rules, the Supplemental Arbitration Rules will control.
- The proceedings should be conducted at a location which is reasonably convenient to both parties with due consideration of their ability to travel and other pertinent circumstances. If the parties are unable to agree on a location, the parties agree that the proceedings will be conducted through documentary submissions and/or via a video or telephonic call or, in the event that face-to-face proceedings are agreed to by the parties or required by the arbitrator, at a location that is reasonably convenient to both parties in accordance with the AAA Consumer Arbitration Rules.
- The parties agree that the Federal Arbitration Act ("FAA") 9 U.S.C. § 1 et seq. governs this provision, and it is the intent of the parties that the FAA shall preempt all State laws to the fullest extent permitted by law.
- No arbitration may be maintained as a class or collective action, and the arbitrator shall not have the authority to combine or aggregate the disputes of more than 1 individual, conduct any class or collective proceeding, make any class or collective award, or make an award to any person or entity not a party to the arbitration, without the express written consent of College Board.
- By agreeing to arbitration in accordance with this section, you are waiving your right to have your dispute heard by a judge or jury except as set forth below.
- Each party will be responsible for its own fees and expenses and any legal fees incurred in connection with the arbitration except that College Board will pay your AAA filing fee. This does not preclude the arbitrator from granting relief in accordance with AAA Consumer Arbitration Rules.
b. Supplemental Arbitration Rules for the Score Validity Process ("Supplemental Arbitration Rules")
- If you receive a notice from us that your scores are subject to the Score Validity Process, you may be provided with the option to choose arbitration. In addition to the General Arbitration Rules, the below rules will apply.
- This arbitration will be conducted as a documentsonly arbitration (i.e., there will be no in-person or telephone hearing) unless otherwise agreed by the parties or required by the arbitrator.
- The sole issue for the arbitrator to decide is whether College Board acted in good faith and followed the Score Validity Process.
- This arbitration will be based only on (i) the documents you submitted to College Board pursuant to the Score Validity Process and (ii) College Board documents unless otherwise agreed by the parties or required by the arbitrator.
- If the arbitrator finds that College Board did not act in good faith in deciding to cancel your scores, your scores will not be canceled (or they will be reinstated, if applicable).
- All other disputes with College Board will be resolved solely by the General Arbitration Rules in (a) above.
c. Notwithstanding the foregoing arbitration provisions in sections (a) and (b) above, either party may take a claim to small claims court instead of arbitration if the party's claim is within the jurisdiction of the small claims court, as permitted in the AAA Rules. If either party institutes an action in small claims court, you and College Board agree to accept the findings of the small claims court as a final resolution of the parties' dispute and not to appeal the small claims court's decision or pursue any other claim (including a claim asserted in arbitration) relating to that dispute.


## Section 10. Limitations of Liability

 EXCEPT TO THE EXTENT FINALLY DETERMINED TO BE PROHIBITED BY LAW, COLLEGE BOARD AND ITS AGENTS AND CONTRACTORS' TOTAL LIABILITY TO YOU OR ANYONE CLAIMING BY OR THROUGH YOU OR ON YOUR BEHALF, FOR ANY CLAIMS, LOSSES, COSTS, OR DAMAGES ARISING OUT OF OR RESULTING FROM OR IN ANY WAY RELATED TO COLLEGE BOARD, OR ANY TEST ADMINISTRATION BY COLLEGE BOARD, FROM ANY CAUSE, SHALL NOT EXCEED THE TEST REGISTRATION FEES YOU PAID TO COLLEGE BOARD (IF APPLICABLE) OR $\$ 100.00$, WHICHEVER IS GREATER. IN ADDITION, COLLEGE BOARD WILL NOT BE LIABLE IN ANY EVENT FOR ANY CONSEQUENTIAL, INDIRECT, PUNITIVE, EXEMPLARY, OR SPECIAL DAMAGES.
## Section 11. Severability

If any provision or part of this Agreement is held to be invalid, illegal, or unenforceable, the remaining provision will nevertheless continue in full force without being impaired or invalidated in any way, and, to the extent possible, the invalid, illegal, or unenforceable provision shall be modified so that it is valid, legal, and enforceable and, to the fullest extent, reflects the intention of the parties.

## Section 12. Restricted Registrations

College Board, along with our service providers overseas, is subject to U.S. economic sanctions, laws, and regulations and is prohibited from providing testing services to, or accepting registrations from, persons residing in certain areas or designated by the U.S. government as Specially Designated Nationals and Blocked Persons (collectively, "Sanctioned Persons"), unless specifically licensed or otherwise authorized by the U.S. government. If a Sanctioned Person attempts to register despite U.S. sanctions that prohibit College Board from doing business with such Sanctioned Person, College Board or a U.S. financial institution may block the registration or payments submitted by or for such Sanctioned Persons. If payment is not blocked, College Board is required to cancel the registration and may not be able to refund the payment. Please contact PSAT 8/9 Customer Service at 866-433-7728 (+1-212-713-8105 internationally) or the website of the U.S. Treasury Department's Office of Foreign Assets Control (OFAC) to obtain the current list of sanctioned programs and Sanctioned Persons.

## Section 13. Accessibility of These Terms and Conditions

If you have difficulty accessing these Terms and Conditions, including our policies and requirements, please contact College Board Customer Service at 866-433-7728 (+1-212-713-8105 internationally) or pages.collegeboard.org/contact-us in advance of registering or taking the PSAT 8/9. We will be happy to provide these Terms and Conditions in an alternative format or assist you in some other manner as reasonably necessary to enable you to access these Terms and Conditions.


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[^1]:    Content: Information and Ideas/Reading closely/Determining implicit meanings
    Focus: Students must draw a logical conclusion from a text.

    ## Key: D $\quad$ Estimated Difficulty: Hard

    Choice $D$ is the best answer because the narrator describes his numerous attempts to see the toy cement mixer's drum rotate, the "months" he spent on this task, and the "seriousness with which [he] tried" to complete the task.

