

2019-20

PSAT™ 8/9

# Student Guide



Important  
information  
about the  
PSAT 8/9



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 SAT® and the Advanced Placement® 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](https://collegeboard.org).

---

## PSAT 8/9 Customer Service

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

**PHONE:** 866-433-7728

**INTERNATIONAL:** +1-212-713-8105

**EMAIL:** [psathelp@info.collegeboard.org](mailto:psathelp@info.collegeboard.org)

**MAIL:** PSAT 8/9  
P.O. Box 6720  
Princeton, NJ 08541-6720

© 2019 College Board. College Board, Advanced Placement, AP, SAT, and the acorn logo are registered trademarks of College Board. PSAT is a trademark owned by College Board. BigFuture and SAT Subject Tests are trademarks owned by College Board. All other marks are the property of their respective owners.

Visit College Board on the web: [collegeboard.org](https://collegeboard.org).

Khan Academy is a registered trademark in the United States and other jurisdictions.

# Contents

- 5 **Using This Guide**
- 5 What the PSAT 8/9 Measures
- 5 How the PSAT 8/9 Is Organized
- 6 How the PSAT 8/9 Is Scored
- 6 What Scores You Will Receive
- 7 **Before Test Day**
- 7 Create a College Board Account
- 7 If You Need Testing Accommodations
- 7 How to Prepare
- 8 **On Test Day**
- 8 Items to Bring for Testing
- 8 Test Security and Fairness Policies
- 9 Phones and Electronic Devices Policy
- 9 Taking the Test
- 10 Protecting Your Privacy: Use of Student Information
- 11 **After Test Day**
- 11 Test Fairness Review
- 11 Test Question Inquiries
- 11 Useful Resources
- 12 **Evidence-Based Reading and Writing**
- 12 Reading Test Overview
- 13 Sample Reading Test Materials
- 14 Reading Test Questions
- 16 Writing and Language Test Overview
- 17 Sample Writing and Language Test Materials
- 18 Writing and Language Test Questions
- 21 **Math**
- 21 Math Test Overview
- 21 Calculator Use
- 22 Answering Student-Produced Response Questions
- 22 Tips for the Math Test
- 22 Sample Math Test Materials
- 23 Math Test – No Calculator Questions
- 26 Math Test – Calculator Questions
- 29 **What You Need to Know About Taking the PSAT 8/9**
- 29 PSAT 8/9 Terms and Conditions
- 33 Makeup Testing
- 34 **Sample Answer Sheet**



## Using This Guide

Taking the PSAT 8/9 is a great way to find out how ready you are for college and career. Just as important, taking the PSAT 8/9 connects you to College Board programs and services that can propel you toward the opportunities you've earned through your own hard work. We've created this guide to help you:

- Become familiar with the test so that 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 writing answers to the student-produced response questions on the Math Test later in this guide.
- Understand how the tests are scored.
- Be aware of what you need to know about taking this test. Terms and conditions and other test security and fairness policies can be found after the sample questions.

---

## What the PSAT 8/9 Measures

The PSAT 8/9 is focused on the skills and knowledge at the heart of education. It measures:

- What you learn in school.
- What you need to succeed in college and career training.

The same habits and choices that lead to success in school will help you get ready for the PSAT 8/9. The best way to prepare for the test is to:

- Take challenging courses.
- Do your homework.
- Prepare for tests and quizzes.
- Ask and answer lots of questions.

---

## How the PSAT 8/9 Is Organized

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

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

## How the PSAT 8/9 Is Scored

All multiple-choice questions are scored the same way: one point for each correct answer and zero points for incorrect answers. 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 below shows you all the scores you'll receive on the PSAT 8/9.

PSAT 8/9 Score Reported	Details	Score Range
<b>Total Score</b>	Sum of the two section scores	240–1440
<b>Section Scores (2)</b>	<ul style="list-style-type: none"> <li>▪ Evidence-Based Reading and Writing</li> <li>▪ Math</li> </ul>	120–720
<b>Test Scores (3)</b>	<ul style="list-style-type: none"> <li>▪ Reading</li> <li>▪ Writing and Language</li> <li>▪ Math</li> </ul>	6–36
<b>Cross-Test Scores (2)</b>	<ul style="list-style-type: none"> <li>▪ Analysis in History/Social Studies</li> <li>▪ Analysis in Science</li> </ul> <p>Based on selected questions in the Reading Test, Writing and Language Test, and Math Test. These scores show how well you use your skills to analyze texts and solve problems in these subject areas.</p>	6–36
<b>Subscores (6)</b>	<ul style="list-style-type: none"> <li>▪ Reading and Writing and Language: Command of Evidence and Words in Context</li> <li>▪ Writing and Language: Expression of Ideas and Standard English Conventions</li> <li>▪ Math: Heart of Algebra, and Problem Solving and Data Analysis</li> </ul>	1–15

## What Scores You Will Receive

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](https://studentscores.collegeboard.org) to learn more about what these scores mean. All students can visit <https://collegereadiness.collegeboard.org/psat-8-9/scores> for general information about scoring.

Your score report includes a message about your potential for success in AP® courses based on your scores.

Scores will be available based on when your school tests. If your school tests in April, scores will be available online by mid-May, and paper score reports will be sent to schools in May and June. 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.

# Before Test Day

---

## 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](https://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.*

---

## Applying for Accommodations

- Work with your school's SSD coordinator or counselor for accommodations. Your SSD coordinator or other appropriate school staff can help determine what accommodations are best for you and, if your state requires it, submit a request online.
  - If you are approved for extended time for specific subject areas only (math, for example), you'll only get those accommodations on the relevant sections or tests.
  - Talk to your SSD coordinator or appropriate staff member before test day to confirm what accommodations you are approved for and any additional information you need for testing.
- 

## 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 Student Guide, including the sample questions and directions, to become more familiar with the test. Go to [collegeboard.org/about-psat-8-9](https://collegeboard.org/about-psat-8-9) to get more information about preparing for the test.

# On Test Day

## Items to Bring for Testing

### What to Bring

- Acceptable photo ID in case you need it (see [sat.org/id](https://sat.org/id) for more information)
- Two No. 2 pencils with soft erasers
- An acceptable calculator for use on the Math Test – Calculator portion of the test (see Calculator Use on page 21)
- Earphones, only if you're approved for assistive technology-compatible or MP3 audio accommodations and the school doesn't provide earphones

### Nice to Have

- A watch (without an audible alarm or communication/recording capabilities; smartwatches may be collected before testing)
- A bag or backpack (which must be stored away during testing)
- Snacks and drinks (which must be under your desk during testing)
- Extra batteries and backup calculator

### What Not to Bring

Unless you have been approved to use a specific device or aid (such as a blood-sugar-monitoring application, highlighter, or colored pen or pencil) as an accommodation, you should not bring any prohibited devices or aids into the testing room. Prohibited devices and aids include, but aren't limited to:

- Cell phones, smartphones, or wearable technology (phones and wearable technology may be collected before the test and returned before dismissal)
- Audio players/recorders
- Tablets, laptops, notebooks, Bluetooth, or any other personal computing devices
- Separate timers of any type
- Cameras or any other photographic equipment
- Smartwatches and any other devices that can be used to record, transmit, receive, or play back audio, photographic, text, or video content
- Highlighters, colored pens/pencils, or mechanical pencils
- Dictionaries or other books
- Compasses, rulers, protractors, or cutting devices
- Pamphlets or papers of any kind, including notes and scratch paper
- Earplugs

**IMPORTANT:** Epinephrine auto-injectors (e.g., EpiPens) are permitted in the testing room without the need for accommodations. They must be placed in a clear bag and stored under your desk during testing. (For other medical devices, you may need to request an accommodation.)

### 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.

**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](https://ordering.collegeboard.org/testordering/publicSearch).) If this is not possible, contact the PSAT 8/9 office (see page 2).

**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.

## Test Security and Fairness Policies

College Board's Test Security and Fairness policies are designed to give every student a fair and equitable opportunity to demonstrate their skills and knowledge. They're also designed to prevent anyone from gaining an unfair advantage on College Board tests. When you take the PSAT 8/9, you acknowledge that you have read, understand, and will comply with our Test Security and Fairness policies as detailed here.

- You must present acceptable photo ID for admission if any school staff member asks you to.
- Allowing someone to impersonate you to take a College Board test, or engaging in impersonation to take a test for someone else, is strictly prohibited.
- Creating a disturbance or failing to follow instructions given by testing staff is prohibited.
- Sharing test questions or answers is prohibited at any time unless test content is released as part of a College Board service.
- Using phones and certain other electronic devices is prohibited in PSAT 8/9 test sites. Staff at your

test site may collect devices such as cell phones and smartwatches before testing begins. If you are observed with such a device after collection occurs, you will be dismissed from testing and your scores will be canceled.

- You are prohibited from accessing secured test materials at any time before or after the test.
- If you exit the building before testing ends, your scores may be canceled.
- While you're taking the test, do not allow anyone to see the test questions or your answers.
- The timing of each test section is strictly scheduled. You cannot skip ahead or go back to a previous test or test section in the test book or answer sheet while taking the PSAT 8/9.
- You may not consult notes, other people, electronic devices, or any other resources during the test or during breaks.
- Calculators may not be shared, and may only be on your desk during the parts of the PSAT 8/9 they're approved for.
- All students in your school must take the test at the same time. (Exceptions may be approved for students with disabilities.)
- If you become ill or must leave during the test, or if for any other reason you do not want your test scored, you may ask the proctor or test coordinator to withdraw your answer sheet from scoring before you leave the testing room. After you leave the testing room, if you decide to withdraw your answer sheet from scoring you must report your decision immediately to the test coordinator or the PSAT 8/9 office. (See page 2 for contact information.)
- Members of your household or immediate family may not serve as PSAT 8/9 coordinators or in any other role that has access to test books before test day, even at a different school, during the testing period (September–March or April) that you take the test. (Immediate family includes one's parents, siblings, children, grandparents, and spouse. This applies even if they do not reside in the same household.) A proctor may not administer the test to a member of their family or household.
- You may not discuss the contents of the test with anyone, or share them through any means, including but not limited to emails, text messages, and the internet, until after score reports have been distributed.

Violation of policies related to test security can result in denial of entry to or immediate dismissal from the test site, cancellation of your scores, or a limited or permanent ban from any College Board assessment, including the SAT, SAT Subject Tests™, and the Advanced Placement® exams.

Please read the PSAT 8/9 Terms and Conditions at the back of this guide for important information about your rights and responsibilities as a test taker.

---

## Phones and Electronic Devices Policy

Devices that can be used to document or communicate test content or answers are not allowed at the test site. You may not bring electronics of any kind other than approved calculators with you on test day (an exception may apply for medically required devices). If, however, you forget to leave a device at home, you'll be instructed to turn off all electronic devices. The staff in your testing room may collect cell phones and wearable technology before the test begins. Be sure to turn off your phone and/or watch alarm, if you have one or both.

If your device makes noise (even if collected by the proctor), you will get a warning and be told to turn it off. However, if you are seen with it at any time, including during breaks, you will be dismissed immediately, your scores will be canceled, and the device may be kept and its contents inspected. College Board is not responsible for loss of or damage to personal items, including electronic devices, while you're at the test site.

College Board regularly bolsters its security efforts in order to protect the integrity of the test and ensure a fair PSAT 8/9 administration. From time to time, College Board, Educational Testing Service (ETS), and its testing staff may employ enhanced security measures, such as the use of metal detecting wands to detect mobile phones and other electronic devices. Test takers should be prepared to undergo these security measures to ensure a fair testing environment.

Depending on your school's policy, the test administration staff may be authorized to collect and hold phones and other prohibited electronic devices during the test administration, including break periods, or to deny admission to anyone in possession of a prohibited electronic device.

---

## Taking the Test

### Testing Guidelines

- Plan ahead and bring equipment that's in good working order. Testing staff may 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.
- On the PSAT 8/9, there's no penalty for guessing; you simply earn points for the questions you answer correctly. Try to give your best answer to every question—there's no advantage to leaving them blank.
- Use a watch to time yourself—no separate timers or alarms are allowed, as they distract other test takers. Choose a watch that doesn't have advanced communication or recording features (these are not allowed).
- Don't skip sections, and don't leave your answer sheet blank. Doing this could result in score cancellation and/or delays.
- 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.
- If you're testing where the staff doesn't know you, keep your ID with you at all times, especially if you leave the testing room.

## Calculator Rules

You can only use certain kinds of calculators, as explained in the Math Test portion of this guide. Here are the other rules to bear in mind:

- You can't share your calculator.
- If you use your calculator to share or exchange information during the test, or to remove test questions or answers from the test room, you'll be dismissed and your scores canceled.
- If you're using a calculator with a large (characters one inch high or more) or raised display that might be visible to other test takers, the proctor may move you to another seat.

---

## Protecting Your Privacy: Use of Student Information

College Board recognizes the importance of protecting your privacy. See [collegeboard.org/privacy-policy](https://collegeboard.org/privacy-policy) for complete data privacy information.

College Board collects personal information only to administer tests and deliver educational opportunities to students. College Board lets students and families decide how much additional information they disclose beyond the minimum information needed to connect students with college success, including taking the PSAT 8/9.

On the answer sheet, we ask students for their name, school information, student ID number, grade level, gender, and date of birth. We may also ask for other information, including address, email address, and mobile phone number. Sometimes, schools, districts,

or states will give us students' personal information to register the students for College Board tests. Students provide any remaining personal information themselves.

We only share student information for educational purposes (or under court order) as follows:

- We share scores with you, your school, and, if applicable, your district and/or state to help measure educational progress and support a student's path to college. (Homeschooled students' scores won't be shared with the school that administers the test.)
- We share a limited amount of personal data with our partners for test administration support, customer support, and to support scoring and reporting activities.
- On our website, we use student information to customize and personalize the content users see, such as important reminders about PSAT 8/9 test dates and college-planning milestones.
- We share de-identified student information with researchers so they can study it for College Board programs and services that help solve education issues.
- Students' use of Khan Academy practice resources will be governed by the Terms and Conditions on the Khan Academy website.

See more Privacy Policies later in this guide.

## 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.

# After Test Day

---

## 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 send an email to [psatquestion@collegeboard.org](mailto: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.*

---

## Useful Resources

We offer resources to help you find the best college and career for you, including:

**BigFuture**—Our website helps you plan for college and find the college that's best for you. Visit [bigfuture.collegeboard.org](http://bigfuture.collegeboard.org).

**Roadmap to Careers**—Want to see how your interests can connect to careers in your future? Try this great online experience powered by our partnership with Roadtrip Nation. Visit [collegeboard.roadtripnation.com](http://collegeboard.roadtripnation.com).

# Evidence-Based Reading and Writing

The Evidence-Based Reading and Writing section is composed of two 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

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.

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

- One passage from a classic or contemporary work of U.S. or world literature.
- One 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).
- One passage on a social science topic from a field such as economics, psychology, or sociology.
- Two science passages (or one passage and one passage pair) that examine foundational concepts or recent developments in Earth science, biology, chemistry, or physics.
- Two passages accompanied by one or more informational graphics.

## What the Reading Test Measures

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.

The Reading Test focuses 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, with general questions about central ideas and themes, point of view, overall text structure, and the like coming 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, in order to find the best answer to the question.

- In your test booklet, mark each question you skip so that you can easily go back to it later if you have time.
- Remember that all questions are worth one 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 the two 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

Higher Text Complexity

#### 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 metal rods.

Line 5 It was the same overlarge miniature as many other toy vehicles—about the size of a breadbox. It weighed three or four pounds. It was a simple toy—no batteries. It had a colored rope, with a yellow handle, and you held the handle and walked pulling  
10 the cement mixer behind you—rather like a wagon, 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  
15 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  
20 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  
25 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  
35 know the actual word for it—rotated, went around 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  
40 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  
45 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  
50 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  
55 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).  
60 I tried peering through a keyhole as someone else 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  
70 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.

---

<b>Key:</b> A	<b>Estimated Difficulty:</b> 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.

---

**Content:** Information and Ideas/Reading closely/  
Determining implicit meanings

---

**Focus:** Students must draw a logical conclusion from a text.

---

<b>Key:</b> D	<b>Estimated Difficulty:</b> 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.

**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 ... rotating”)

---

**Content:** Information and Ideas/Citing textual evidence

---

**Focus:** Students must cite the textual evidence that best supports a given point.

---

<b>Key:</b> D	<b>Estimated Difficulty:</b> 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.

<b>Key:</b> C	<b>Estimated Difficulty:</b> 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.

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.

### 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.

You'll want to read the passages carefully so you can make decisions that improve them.

### 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 writing—the 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

The test comprises a series of passages and associated multiple-choice questions that put you in the role of someone revising or editing the work of an unspecified writer. You are revising the passages for development, organization, and effective language use as well as editing the passages to ensure that they follow the conventions of standard written English grammar, usage, and punctuation.

- 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 three 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 that you can easily go back to it later if you have time.
- Remember that all questions are worth one 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 the two 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.

**1** 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.

<b>Key:</b> A	<b>Estimated Difficulty:</b> Hard
---------------	-----------------------------------

**Choice 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.

**2**

- 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 consistency of style and tone within a text.

<b>Key:</b> C	<b>Estimated Difficulty:</b> Easy
---------------	-----------------------------------

**Choice C** is the best answer because “it’s important” is consistent with the established style and tone of the passage, which is in the third person and provides information formally and directly, without exaggeration.

**Choice A** is incorrect because “I’m telling you what a big deal it is” varies from the established style and tone of the passage by shifting from third to first person and by using overly casual language that suggests exaggeration.

**Choice B** is incorrect because “it’s so huge” varies from the established style and tone of the passage by using overly casual language that suggests exaggeration.

**Choice D** is incorrect because “I cannot overemphasize how crucial it is” varies from the established style and tone of the passage by shifting from third to first person and by using language that suggests exaggeration.

**3**

- 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.

<b>Key:</b> B	<b>Estimated Difficulty:</b> 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.

4

- 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.

---

<b>Key:</b> C	<b>Estimated Difficulty:</b> 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 no-calculator 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 may 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.

## Acceptable Calculators

Only battery-operated, handheld equipment can be used for testing. No power cords are allowed. A list of acceptable graphing calculators can be found online at [sat.org/calculators](http://sat.org/calculators).

Calculators permitted during testing include:

- Most graphing calculators that don't have the unacceptable features listed in the next section
- All scientific calculators
- All four-function calculators (not recommended)

## Unacceptable Calculators

You're not allowed to use any of the following items as a calculator (unless approved as an accommodation):

- Tablets, laptops, notebooks, or any other personal computing devices, including wearable technology
- Models that can access the internet, have wireless, Bluetooth, cellular, audio/video recording and playing, camera, or any other smartphone-type feature
- Models that have a computer-style (QWERTY) keyboard, pen-input, or stylus
- Models that use electrical outlets, make noise, or have a paper tape (unless approved as an accommodation). In addition, the use of hardware peripherals such as a stylus with an approved calculator is not permitted. Some models with touch-screen capability are not permitted (e.g., Casio ClassPad).

---

## Answering Student-Produced Response Questions

You'll see directions in the test book for answering student-produced response questions. (See page 25 for an example.) Take the time to be comfortable with the format before test day. Here are some important points:

- Mark no more than one bubble in any column.
- Only answers indicated by filling in the bubbles will be scored (you won't receive credit for anything written in the boxes located above the bubbles).
- It doesn't matter in which column you begin entering your answer. As long as the correct response is recorded within the grid area, you'll receive credit.
- The grid can hold only four characters and can only accommodate positive numbers and zero.
- Unless a problem indicates otherwise, answers can be entered on the grid as a decimal or a fraction.
- Fractions like  $\frac{3}{24}$  don't need to be reduced to their lowest terms.
- All mixed numbers need to be converted to decimals or improper fractions before being recorded in the grid.
- If the answer is a repeating decimal, you must grid the most accurate truncated or rounded value the grid will accommodate.

---

## 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 multiple-choice 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 the two 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

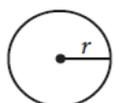
### DIRECTIONS

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

- The use of a calculator **is not permitted**.
- All variables and expressions used represent real numbers unless otherwise indicated.
- Figures provided in this test are drawn to scale unless otherwise indicated.
- All figures lie in a plane unless otherwise indicated.
- 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

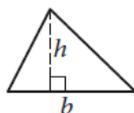


$$A = \pi r^2$$

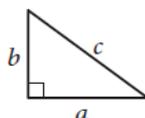
$$C = 2\pi r$$



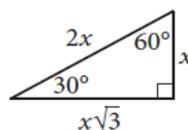
$$A = \ell w$$



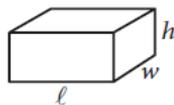
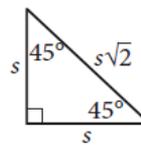
$$A = \frac{1}{2}bh$$



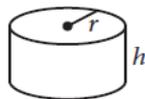
$$c^2 = a^2 + b^2$$



Special Right Triangles



$$V = \ell wh$$



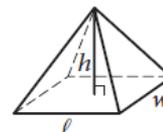
$$V = \pi r^2 h$$



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



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



$$V = \frac{1}{3}\ell wh$$

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 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)  $(6)(4 + 9) + 8t = 126$   
 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.

2

The amount of energy used by a light, in kilowatt-hours, is calculated by multiplying the number of kilowatts of the light's bulb by the number of hours the light is on. The expression  $0.075x + 0.060y$  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,  $0.075x$  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**

- 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.
- Mark no more than one bubble in any column.
- No question has a negative answer.
- Some problems may have more than one correct answer. In such cases, grid only one answer.
- Mixed numbers** such as  $3\frac{1}{2}$  must be gridded as 3.5 or 7/2. (If 

3	1	/	2
•	•	•	•
0	0	0	0

 is entered into the grid, 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.

Answer:  $\frac{7}{12}$       Answer: 2.5

Write answer in boxes. →      ← Fraction line      ← Decimal point

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

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

Grid in result.

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
7	7	7
8	8	8
9	9	9

.	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
7	7	7	7
8	8	8	8
9	9	9	9

.	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
7	7	7	7
8	8	8	8
9	9	9	9

**3**

$$2x + 3y = 14$$

$$3x = y + 10$$

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  $y = 3x - 10$  and to substitute this value of  $y$  into the first equation. This yields  $2x + 3(3x - 10) = 14$ , which can be rewritten as  $11x - 30 = 14$ . Adding 30 to both sides and then dividing by 11 gives  $x = 4$ . If this value of  $x$  is substituted into the equation  $y = 3x - 10$ , 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.

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 you don't need to use should be left blank.

## Math Test – Calculator Questions

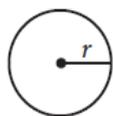
### DIRECTIONS

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

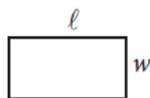
- The use of a calculator **is permitted**.
- All variables and expressions used represent real numbers unless otherwise indicated.
- Figures provided in this test are drawn to scale unless otherwise indicated.
- All figures lie in a plane unless otherwise indicated.
- Unless otherwise indicated, the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

### REFERENCE

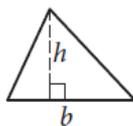


$$A = \pi r^2$$

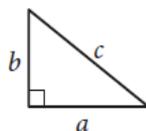
$$C = 2\pi r$$



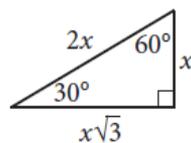
$$A = \ell w$$



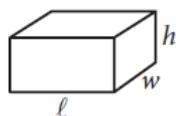
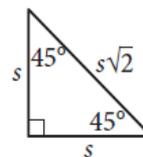
$$A = \frac{1}{2}bh$$



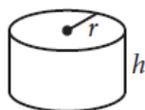
$$c^2 = a^2 + b^2$$



Special Right Triangles



$$V = \ell wh$$



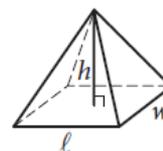
$$V = \pi r^2 h$$



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



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



$$V = \frac{1}{3}\ell wh$$

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**

<b>Key:</b> B	<b>Estimated Difficulty:</b> 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  $278,000x = (16,680)(324,000)$ , 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

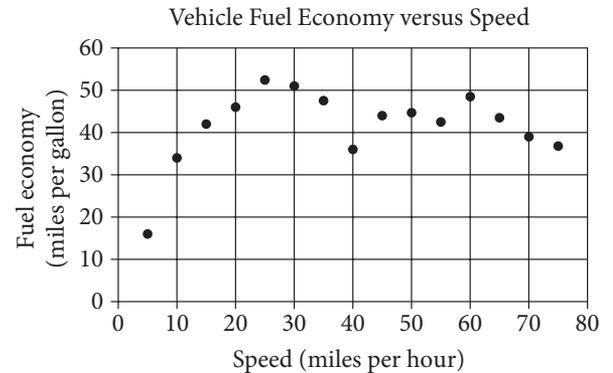
$16,680 \times 278,000 = 324,000x$ , and then rounding the answer down to \$14,311.

**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.

<b>Key:</b> D	<b>Estimated Difficulty:</b> 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**

<b>Key:</b> B	<b>Estimated Difficulty:</b> 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 (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 25.

4

If  $f(x) = 4 - x$  and  $g(x) = 2x^2 - 1$ , 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 conceptual problem.

**Calculator**

<b>Key:</b> 2	<b>Estimated Difficulty:</b> 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  $g(x) = 2x^2 - 1$ , and so  $g(1) = 2(1)^2 - 1 = 1$ . It follows, then, that  $f(1) - g(1) = 3 - 1 = 2$ .

# What You Need to Know About Taking the PSAT 8/9

## PSAT 8/9 Terms and Conditions

The testing policies and other information in this guide apply to every PSAT 8/9 test administration. From time to time, College Board might update these policies.

By taking the PSAT 8/9, you're certifying that you are the person whose personal information is being provided for the test and that the information you are providing is accurate. Giving false or misleading information about yourself, such as name, address, date of birth, current grade level, expected graduation date, or name of school, can result in an investigation, cancellation of scores, and a testing ban for College Board assessments, and such other actions as College Board, in its sole discretion, deems appropriate. We reserve the right to cancel scores from College Board test administrations that occurred prior to the test administration at issue.

- When someone registers for you, we will interpret that as you giving them permission to do so and you agreeing to the testing policies and guidelines through them.
- If your school participates in a PSAT 8/9 administration and/or a bulk registration process for the test, College Board may receive your personal information, including first name, last name, gender, date of birth, and mailing address, from your school. This information will be kept secure and added to your permanent College Board record to be used for score reporting purposes as well as the other purposes that are outlined in this guide. By taking the PSAT 8/9 and signing the PSAT 8/9 answer sheet, you acknowledge that your school has provided this information to College Board and consent to College Board retaining this information.
- Creating fake or multiple College Board student accounts, intentionally or inadvertently, is strictly prohibited and can result in an investigation, the merging of relevant records, and penalties that may include score cancellation or being banned from taking College Board assessments, including AP, SAT, and SAT Subject Tests.
- PSAT 8/9 policies are subject to change at any time for test security or other reasons. College Board will attempt to provide adequate prior notice, although circumstances may limit our ability to do so.
- College Board and the test site will not be responsible for personal property, including prohibited items, brought to the test site on test day that becomes lost, stolen, or damaged.
- In certain cases, including where there is unexpected volume in a particular area or for test security reasons, College Board reserves the right to move test takers to a different location or to a subsequent test administration.
- In the event of a test security-related concern, public health threat, natural disaster, terrorist act, or other unexpected events or circumstances, College Board may cancel testing for all or a specific group of test takers. When this occurs, College Board will notify test takers in advance if possible. We will communicate test cancellations and, when feasible, alternative test dates for affected test takers.
- To ensure the integrity of the PSAT 8/9, College Board reserves the right to bar any individual or group of individuals from registering for and/or taking any College Board test.
- 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 school or law enforcement agencies. We might also provide personal information to those contacted.
- Except as otherwise indicated in these terms and conditions, College Board and its agents and subcontractors shall not be liable for any damages, including consequential, direct, indirect, or punitive damages arising from or otherwise related to test development and administration, score reporting, test security, or the failure of testing staff, students, or school districts to comply with College Board's policies and procedures, whether or not (A) the claim is contract based or (B) College Board has been advised of the possibility of such damages.
- 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. They will not be included in computing students' scores.
- College Board takes steps to ensure that answer sheets are properly handled and scored. In the unlikely event of a problem with shipping or otherwise processing answer sheets, or score reports, or with scoring the test, or score reporting, College Board will correct the error, if possible, schedule a makeup test for impacted test takers, or

provide a refund of the test fee if the test taker has paid it. These are the sole remedies for test takers in relation to such issues. College Board has sole discretion in determining whether to score lost answer sheets that are eventually recovered.

## Additional Privacy Policies

College Board employs an array of measures, in compliance with applicable laws and the policies and guidelines set forth herein, to manage and safeguard personal information that you provide to College Board. Please see College Board's privacy policy online at [collegeboard.org/privacy-policy](https://collegeboard.org/privacy-policy).

Your scores will be made available to your school. In addition, individual scores and other information you provide during testing may be reported to your district or state and/or their agents and representatives for educational, diagnostic and/or reporting purposes. For more information about the guidelines on the uses of College Board test scores and related data, ask your counselor or download Guidelines on the Uses of College Board Test Scores and Related Data from [collegeboard.org/research](https://collegeboard.org/research). **Your name will never be sold to a commercial marketing firm or retailer of merchandise or services (such as test prep).**

College Board will disclose scores to a student's parent or guardian if the parent or guardian is able to supply to College Board the required authentication information, unless College Board determines in its sole discretion that its records on the student contain a court order, state statute, or legally binding document relating to matters such as divorce, separation, or custody that restricts the parent's or guardian's access to the student's scores. College Board will not independently investigate whether a court order, state statute, or legally binding document exists other than in its records; rather, relevant documents and information must be submitted to College Board. College Board reserves the right to request additional documents and information in connection with determining whether or not to disclose scores to a parent or guardian.

Other than disputes involving an "Invalid Scores" review (see the "Invalid Scores" section later in this guide) or infringement of College Board's intellectual property rights, all disputes **against 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, and the use of test taker data, shall exclusively be resolved by a single arbitrator through binding, individual arbitration administered by the American Arbitration Association ("AAA"), 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 [www.adr.org](http://www.adr.org). Unless the parties mutually agree otherwise, the seat and the place of the arbitration shall be New York, New York. 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 pre-empt all State laws to the fullest extent permitted by law. No arbitration may be maintained as a class action, and the arbitrator shall not have the authority to combine or aggregate the disputes of more than one individual, conduct any class proceeding, make any class 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. Each party will be responsible for its own fees and expenses incurred in connection with the arbitration, regardless of its outcome. For purposes of this provision, each College Board contractor is a third-party beneficiary of this section, is entitled to the rights and benefits hereunder, and may enforce the provisions hereof as if it were a party hereto.

## Notice to EU Residents

College Board is providing this supplemental privacy notice to give individuals in the European Union (EU) this additional information required by the EU General Data Protection Regulation (GDPR). These provisions, together with the statements in College Board Privacy Notices, explain our practices with regard to processing EU residents' personal data. For the most up to date information please visit [collegeboard.org/privacy-policy/notice-to-eu-residents](https://collegeboard.org/privacy-policy/notice-to-eu-residents) or contact Customer Service at [eucustomerservice@collegeboard.org](mailto:eucustomerservice@collegeboard.org) or (844) 849-3551.

College Board requires certain Personal Information from you in order to provide you with our products and services. Our registration forms indicate which data elements are required for our contracts. If you do not provide these data elements or you provide inaccurate information, this will invalidate your registration.

We collect and process your information based on the lawful basis described below:

- To fulfill a contract with you, such as to provide a College Board test or a test offered by another company on behalf of College Board.
- We may provide Personal Information to our subcontractors (processors) and other trusted businesses or persons to process it for us, based on our instructions and in compliance with our Privacy Policy and any other appropriate confidentiality and security measures. For

example, we use service providers to help process and score our tests; to process a payment, to create an account on our website, and for website management.

- With your consent, to send you marketing emails communications.

We may also process your Personal Information for the purposes of our legitimate interests, provided that such processing shall not outweigh your rights and freedoms. In particular, we may process your Personal Information as needed to:

(i) Protect you, us, or others from threats (such as security threats or test fraud); (ii) Improve College Board tests and support College Board research initiatives; (iii) Comply with the laws that are applicable to us around the world; (iv) Enable or administer our business, such as for quality control, consolidated reporting, and customer service; (v) Manage corporate transactions, such as mergers or acquisitions; and (vi) Understand and improve our business, improve test integrity, and for research purposes.

#### Automated Decision Making and Profiling

College Board may use automated processes in connection with scoring tests and for similar purposes, as needed to provide the test services that you have requested. All such decisions are subject to human review. We will not make automated decisions about you that may significantly affect you, unless (a) the decision is necessary as part of a contract that we have with you, (b) we have your explicit consent, or (c) we are required by law to use the technology. You can learn more about test scoring by reading the information posted on our website about each of our tests and in the Research section of our website [research.collegeboard.org](http://research.collegeboard.org).

#### Your Rights

You always have the right to object to our marketing communications. To opt out of emails, simply click the link labeled unsubscribe at the bottom of any email we send you.

EU residents also have the right to access, correct, and request erasure or restriction of their Personal Information as required by law. This means you have a right to know whether or not College Board maintains your Personal Information. If we do have your Personal Information, we will provide you with a copy (subject to the rights of others). If your information is incorrect or incomplete, you have the right to ask us to update it. You may also ask us to delete or restrict your Personal Information.

To exercise these rights, please contact us via email at [eucustomerservice@collegeboard.org](mailto:eucustomerservice@collegeboard.org) or write to us at the U.S. address on page 2 of this guide, and a member of our customer service team will assist you. Please understand that we may need to verify your identity before we can process your request. Additionally, our ability to delete Personal Information will be limited in those cases where we are required to retain records, such as in connection with score reports and test security processes.

If you believe that we have processed your Personal Information in violation of applicable law, you may file a complaint with College Board Office of General Counsel or with a supervisory authority.

#### Data Retention

We will retain your Personal Information for as long as the information is needed for the purposes set forth above and for any additional period that may be required or permitted by law. You may request that we delete your Personal Information by contacting us via email at [eucustomerservice@collegeboard.org](mailto:eucustomerservice@collegeboard.org). Unless we are required by law or have a legitimate interest to retain your information, we will delete it within 30 days of your request.

#### College Board Alerts SMS Terms and Conditions

If you provide your mobile number to College Board, we will use it only for the purposes outlined in Protecting Your Privacy: Use of Student Information.

- To discontinue receiving SMS messages from College Board Alerts, text STOP to 70801, or you can call Customer Service. Message and data rates may apply.
  - ◆ For a request to unsubscribe, you will receive one (1) final message from College Board confirming that you have been unsubscribed in our system.
  - ◆ Following such confirmation message, no additional text messages will be sent unless you reactivate your subscription, which you can do by texting STUDENTJOIN or PARENTJOIN to 70801.
- For additional help, text HELP to 70801 or contact [socialmediasupport@collegeboard.org](mailto:socialmediasupport@collegeboard.org).
- Compatible Carriers are listed under **Communications from College Board and Opt-In Choices** at [collegeboard.org/privacy-policy/privacy-statement](http://collegeboard.org/privacy-policy/privacy-statement).

## Grounds for Score Cancellation

College Board and ETS (referred to together in these terms as “we” or “our”) reserve the right to dismiss test takers, decline to score any test, and/or cancel any test scores when, in our sole judgment, as applicable, a testing irregularity occurs; there is an apparent discrepancy in the test taker’s identification; a test taker is improperly admitted to the test site; a test taker has engaged in misconduct (see “Misconduct” later in this section); based on a test taker’s testing history, the validity of the score is suspect; or the score is deemed invalid for another reason, including, but not limited to, discrepant handwriting, unusual answer patterns, or plagiarism. Pending investigations are kept confidential, but results of completed investigations may be communicated to intended score recipients, including if such investigation indicates attempts to gain an unfair advantage in any way, including but not limited to impersonation, use of prohibited items, or attempts to send/receive test content. We strive to protect the privacy of test takers whose scores are questioned. However, if the test taker publicizes the investigation, we reserve the right to make details of such investigation public.

When, for any of these reasons, we cancel a test score that has already been reported, we’ll notify score recipients that the score was canceled, but we won’t disclose the reason for cancellation unless authorized to do so by the test taker, there is suspected impersonation, in certain cases that affect a group of test takers, or where required by law.

**Testing Irregularities** Testing irregularities refer to problems or irregular circumstances or events associated with the administration of a test; they may affect an individual or groups of test takers.

Such problems include, without limitation, administrative errors (e.g., improper timing, improper seating, accommodations not approved by the school, defective materials, and defective equipment), evidence of possible preknowledge of secure test content, and disruptions of test administrations such as natural disasters and other emergencies.

When testing irregularities occur, we may cancel an administration or individual tests, decline to score all or part of the test, or cancel the test score. We may do so whether or not the affected students caused the testing irregularities, benefited from them, or engaged in misconduct. We are solely responsible for determining whether testing irregularities have occurred, and our decisions are final. When appropriate, we give affected test takers the opportunity to take the test again within a reasonable timeframe, without charge. This is the sole

remedy available to test takers as a result of testing irregularities.

**Identification Discrepancies** When, in the judgment of ETS or testing staff, there is a discrepancy in a test taker’s identification, the test taker may be denied admission to or dismissed from the test site; in addition, ETS may decline to score the test, or immediately cancel the test score.

**Misconduct** When, based upon observations during an administration or a review of evidence thereafter, College Board, ETS, or testing staff find misconduct in connection with a test, the test taker may be dismissed from the test site, or we may decline to score the test or may cancel the test score, and such test taker may be banned from taking future College Board assessments. Repeated infractions during the test may result in dismissal from the test site or score cancellation.

Misconduct includes, but is not limited to:

- Taking any test questions from the testing room, including through memorization, giving them to anyone else, or discussing them with anyone else through any means, including, but not limited to, email, text messages, social media, or the internet.
- Improperly accessing the test, a part of the test, or information about the test, or the test site.
- Referring to, looking through, or working on any test, or test section in the test book or answer sheet, other than during the testing period for that test or test section.
- Referring to, or looking through, any test or test section while leaving the answer sheet blank.
- Attempting to give or receive assistance, including by copying or through the use of an answer key.
- Discussing or sharing of test content during the test administration, during breaks, or after the test.
- Communicating with other test takers in any form while testing is in session in the testing room.
- Using or accessing any prohibited devices or aids such as, but not limited to, cell phones, smartphones, 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.
- Failing to turn in a cell phone during the test site’s collection process (if applicable) or disrupting testing by a cell phone making noise.
- Sharing or other misuse of equipment, including using a calculator on a test or test section you’re not allowed to use calculators for.
- Consuming food or drink in unauthorized areas.

- Leaving the test room without permission.
- Leaving the building at any time during the test administration, including during breaks.
- Attempting in any manner to remove from the test room any part of a test book or any notes relating to the test.
- Attempting to take the test for someone else or attempting to have someone else impersonate you to take the test.
- Disturbing others or refusing to follow instructions given by test site staff.
- Refusing to follow any of the test administration regulations contained in this guide or given by the testing staff.

**Testing History** Based on a test taker’s testing history, their scores may be canceled without applying procedures normally used for students as explained in the “Invalid Scores” section. College Board reserves the right to report a test taker’s testing history to institutions that inquire as part of a test security investigation.

**Invalid Scores** We may also cancel scores if there is substantial evidence that they’re invalid for any other reason. Evidence of invalid scores may include, without limitation, discrepant handwriting and unusual answer patterns.

Before canceling scores under this “Invalid Scores” section, we notify the test taker in writing (via email if possible) about our concerns, let the test taker submit information addressing them, and consider any information submitted. If substantial evidence still exists that the scores aren’t valid, we offer the test taker options that may include voluntary score cancellation, a free retest under closely monitored conditions, or arbitration in accordance with ETS’s standard Arbitration Agreement. When notifying the test taker, we send a copy of the booklet *Why and How Educational Testing Service Questions Test Scores*, which explains this process in greater detail. (Any test taker may request a copy of this booklet at any time.) Notification of the concern may be made via email if an email address is available. If no action is taken by the test taker, though, the scores will be canceled.

If at any time before, during, or after a review of questionable scores we find that test misconduct has occurred, we may treat the matter under our misconduct procedures; in that case, the options just described under this “Invalid Scores” section or the “Testing Irregularities” section, as applicable, will not be available, even if those options were previously offered. We have sole discretion in determining

whether to treat potential testing violation under this section or the “Misconduct” section on the previous page.

**Suspected Impersonation** In cases where we believe that someone other than the intended test taker took the test for the intended test taker, and in other cases where required or permitted by law, we may refer the matter to law enforcement and inform the intended test taker’s parent(s), legal guardian(s), and school. The intended test taker specifically acknowledges, and agrees to, such disclosure.

**Reporting Misconduct or Suspicious Behavior** All PSAT 8/9 tests are administered under strict supervision and security measures. To report any suspected violation of our Test Security and Fairness policies, or any suspicion concerning the security of an PSAT 8/9 test administration, please contact the Office of Testing Integrity by phone at 609-406-5430 between 7:30 a.m. and 5:30 p.m. Eastern Time, by fax at 609-406-9709, or by email at [testsecurity@info.collegeboard.org](mailto:testsecurity@info.collegeboard.org) as soon as possible. All information will be held strictly confidential unless required to disclose it by law.

## Reporting Violations

If we find that you have gained or attempted to gain or share an unfair advantage on any College Board test, we reserve the right to share this information with your school, any other score recipients, law enforcement, and any other government agencies in the U.S. or abroad.

---

## 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.
- Waitlist registrants are not eligible to take a makeup test.
- 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.

# Sample Answer Sheet

## Answer Sheet — Multiple-Choice Questions and Student-Produced Responses

You must use a No. 2 pencil. It is important that marks are dark and complete. Do not use a mechanical pencil. If you need to change a response, erase as completely as possible. Incomplete marks or erasures may affect your score.

Complete Mark: ●

Incomplete Marks: ○



### Section 1



- |                   |                    |                    |                    |                    |                    |
|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1 (A) (B) (C) (D) | 9 (A) (B) (C) (D)  | 17 (A) (B) (C) (D) | 25 (A) (B) (C) (D) | 33 (A) (B) (C) (D) | 41 (A) (B) (C) (D) |
| 2 (A) (B) (C) (D) | 10 (A) (B) (C) (D) | 18 (A) (B) (C) (D) | 26 (A) (B) (C) (D) | 34 (A) (B) (C) (D) | 42 (A) (B) (C) (D) |
| 3 (A) (B) (C) (D) | 11 (A) (B) (C) (D) | 19 (A) (B) (C) (D) | 27 (A) (B) (C) (D) | 35 (A) (B) (C) (D) |                    |
| 4 (A) (B) (C) (D) | 12 (A) (B) (C) (D) | 20 (A) (B) (C) (D) | 28 (A) (B) (C) (D) | 36 (A) (B) (C) (D) |                    |
| 5 (A) (B) (C) (D) | 13 (A) (B) (C) (D) | 21 (A) (B) (C) (D) | 29 (A) (B) (C) (D) | 37 (A) (B) (C) (D) |                    |
| 6 (A) (B) (C) (D) | 14 (A) (B) (C) (D) | 22 (A) (B) (C) (D) | 30 (A) (B) (C) (D) | 38 (A) (B) (C) (D) |                    |
| 7 (A) (B) (C) (D) | 15 (A) (B) (C) (D) | 23 (A) (B) (C) (D) | 31 (A) (B) (C) (D) | 39 (A) (B) (C) (D) |                    |
| 8 (A) (B) (C) (D) | 16 (A) (B) (C) (D) | 24 (A) (B) (C) (D) | 32 (A) (B) (C) (D) | 40 (A) (B) (C) (D) |                    |

### Section 2



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

### Section 3



- |                   |                    |
|-------------------|--------------------|
| 1 (A) (B) (C) (D) | 8 (A) (B) (C) (D)  |
| 2 (A) (B) (C) (D) | 9 (A) (B) (C) (D)  |
| 3 (A) (B) (C) (D) | 10 (A) (B) (C) (D) |
| 4 (A) (B) (C) (D) |                    |
| 5 (A) (B) (C) (D) |                    |
| 6 (A) (B) (C) (D) |                    |
| 7 (A) (B) (C) (D) |                    |

**Student-Produced Responses** Enter answers as directed in your test book. Answers must be bubbled to be scored. You will not receive credit for anything written in the boxes.

11					12					13				
	/	/				/	/				/	/		
	*	*	*	*		*	*	*	*		*	*	*	*
	0	0	0	0		0	0	0	0		0	0	0	0
	1	1	1	1		1	1	1	1		1	1	1	1
	2	2	2	2		2	2	2	2		2	2	2	2
	3	3	3	3		3	3	3	3		3	3	3	3
	4	4	4	4		4	4	4	4		4	4	4	4
	5	5	5	5		5	5	5	5		5	5	5	5
	6	6	6	6		6	6	6	6		6	6	6	6
	7	7	7	7		7	7	7	7		7	7	7	7
	8	8	8	8		8	8	8	8		8	8	8	8
	9	9	9	9		9	9	9	9		9	9	9	9

### Section 4



- |                    |                    |
|--------------------|--------------------|
| 1 (A) (B) (C) (D)  | 15 (A) (B) (C) (D) |
| 2 (A) (B) (C) (D)  | 16 (A) (B) (C) (D) |
| 3 (A) (B) (C) (D)  | 17 (A) (B) (C) (D) |
| 4 (A) (B) (C) (D)  | 18 (A) (B) (C) (D) |
| 5 (A) (B) (C) (D)  | 19 (A) (B) (C) (D) |
| 6 (A) (B) (C) (D)  | 20 (A) (B) (C) (D) |
| 7 (A) (B) (C) (D)  | 21 (A) (B) (C) (D) |
| 8 (A) (B) (C) (D)  |                    |
| 9 (A) (B) (C) (D)  |                    |
| 10 (A) (B) (C) (D) |                    |
| 11 (A) (B) (C) (D) |                    |
| 12 (A) (B) (C) (D) |                    |
| 13 (A) (B) (C) (D) |                    |
| 14 (A) (B) (C) (D) |                    |

**Student-Produced Responses** Enter answers as directed in your test book. Answers must be bubbled to be scored. You will not receive credit for anything written in the boxes.

22					23					24					25				
	/	/				/	/				/	/				/	/		
	*	*	*	*		*	*	*	*		*	*	*	*		*	*	*	*
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
	1	1	1	1		1	1	1	1		1	1	1	1		1	1	1	1
	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2
	3	3	3	3		3	3	3	3		3	3	3	3		3	3	3	3
	4	4	4	4		4	4	4	4		4	4	4	4		4	4	4	4
	5	5	5	5		5	5	5	5		5	5	5	5		5	5	5	5
	6	6	6	6		6	6	6	6		6	6	6	6		6	6	6	6
	7	7	7	7		7	7	7	7		7	7	7	7		7	7	7	7
	8	8	8	8		8	8	8	8		8	8	8	8		8	8	8	8
	9	9	9	9		9	9	9	9		9	9	9	9		9	9	9	9