2016–2017

PSAT™ 8/9

Student Guide

Information about the PSAT 8/9

Test-taking advice and tips

Directions and sample test questions

The College Board

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the 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, the 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**.

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The PSAT 8/9

The PSAT 8/9 is the first test in the SAT Suite of Assessments. Like all of the tests in the SAT suite, it helps students and teachers "check in" on students' progress and pinpoint areas for focused practice.

Contact Us

Email: psathelp@info.collegeboard.org
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Hours of operation: 8 a.m.–9 p.m. EST

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Important Information About Taking the PSAT™ 8/9

Fall testing dates

Fall testing dates for the PSAT™ 8/9 are available from Sept. 26, 2016, through Jan. 27, 2017.

What does the PSAT 8/9 measure?

The PSAT 8/9 measures reading, writing and language, and math skills learned both in and out of school.

You won't be asked to recall facts from literature, history, or science, or to complete math formulas, because this test measures your reasoning and critical thinking skills.

Why take the test?

- Your test results will set a baseline measurement of your college and career readiness as you enter high school.
- If you're in the ninth grade, your test results will let you know if you should check out AP World History or AP European History. Go to **apstudent.collegeboard.org** for more information.
- When you get your test results, connect your College Board and Khan Academy® accounts, then visit **khanacademy.org/sat** to get free, personalized study recommendations.

Who do I contact if I have questions?

See your teacher or counselor. For more help, see the contact information on the inside front cover.

What should I bring on test day?

- No. 2 pencils with erasers
- Approved calculator (see page 12)
- Social Security number (optional)
- Student ID number, assigned by your school (optional)

Online preparation and resources

- Go to **collegereadiness.collegeboard.org/psat-8-9/scores** to get more information about scoring and linking to practice.

PSAT 8/9 Scores

What scores will I get?

In around two months, your school will receive your PSAT 8/9 Score Report, which will then be given to you. Your score report will include a total score, section scores, test scores, cross-test scores, and subscores—all of which will give you better insight into your performance. If you're 13 or over, visit **studentscores.collegeboard.org** when you get your score report to learn more about what these scores mean.

The score report will also show the correct answers, the answers you gave, and the difficulty level of each question. If you haven't received your score report within three months of taking the PSAT 8/9, see your teacher or counselor. The College Board doesn't provide duplicate copies of score reports, but your school will be able to print a copy.

Does anyone else receive my scores and the information I provide on my answer sheet?

Please see the "Use and Distribution of Scores and Student Information" section to learn more about who gets your scores and other personal information.

Students with Disabilities

The College Board provides testing accommodations such as Braille, large-print test books, and extended time options for tests. If you have a disability and haven't been approved for accommodations by the College Board, speak to your counselor or teacher and have your parents talk to your school about its disability policy. Your school's SSD Coordinator can help you request accommodations to meet your needs.

Test Regulations

Standard rules and regulations give all students the same opportunity and prevent any student from having an unfair advantage. When you take the test, you will be asked to read and sign a Certification Statement stating that you agree to follow these regulations, so read them carefully. Also read about grounds for score cancellation on page 3. If you don't follow these test regulations or any instructions given by the test supervisor your scores may be canceled.

Use and Distribution of Scores and Student Information

When you take the PSAT 8/9 and sign the answer sheet, you acknowledge that you understand how your scores and personal information will be used.

Some schools, districts, and states receive PSAT 8/9 scores with other information about their students. The College Board does not share your PSAT 8/9 test results with third parties.

If your school participates in the PSAT 8/9 through a bulk registration process, the College Board may receive your personal information, including first name, last name, sex, 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 and the other purposes outlined in this guide and in registration materials. By taking the PSAT 8/9 and signing the PSAT 8/9 answer sheet, you acknowledge that your school has supplied this information to the College Board and consent to the College Board retaining this information.

Test Day Regulations

- Mark your answers on the answer sheet. You will not receive credit for anything written in the test book. You may not leave the room with your test book. You may use only your test book for scratch work (unless approved for an accommodation).
- You may use an approved calculator (see "Acceptable Calculators," page 12) only during the Math Test – Calculator portion of the PSAT 8/9; you may not have a calculator on your desk during the Reading or the Writing and Language sections, and you may not share a calculator during the test or during breaks. You may only use one calculator at any given time—if you brought a second one for backup, it must be kept under your desk.
- You are not allowed to use protractors; compasses; rulers; cutting devices; earplugs; scratch paper, notes, books, dictionaries, or references of any kind; pamphlets; pens, mechanical pencils, highlighters, or colored pencils; listening, recording, copying, or photographic devices; or any other aids. You may not bring food or drink (including bottled water) into the test room, unless preapproved for medical reasons.
- You may not use cell phones or other prohibited electronic devices during the test or breaks. Prohibited devices include, but are not limited to, cell phones or smartphones; audio players/recorders, tablets, laptops, notebooks, or any other personal computing devices; separate timers of any type; cameras or other photographic equipment; any devices (including smartwatches) that can be used to record, transmit, receive, or play back audio, photographic, text, or video content. Power must be turned off, and these devices must be stored under your desk. If your watch has an alarm, you must turn that off as well. If your phone makes noise, or you are seen using it at any time (including breaks), you will be dismissed immediately, your scores will be canceled, and the device may be confiscated and its contents inspected.
- You may not give or receive assistance or disturb others during the test or breaks.
- You can't skip ahead or go back to a previous test section while taking the PSAT 8/9.
- You can take the PSAT 8/9 only once each test administration (The PSAT 8/9 can be taken once in the fall or once in the spring).

- All PSAT 8/9 test-takers in your school must take the test at the same time. (Read about special arrangements and testing accommodations for students with disabilities on page 2.)
- If you become ill and/or must leave during the test, or if for any other reason you don't want your test scored, you may ask the test supervisor to destroy your answer sheet before you leave the testing room. After you leave the testing room, any decision to withdraw your answer sheet from scoring must be reported immediately to the test supervisor. (See contact information on the inside front cover.)
- **You may not discuss the contents of the test with anyone else, or share them through any means, including but not limited to emails, text messages, and the internet, until after score reports have been distributed.**
- Members of your household or immediate family may not serve as PSAT 8/9 supervisors, coordinators, or proctors, even at a different school, on the date that you take the test.

Grounds for Score Cancellation

To report scores that accurately reflect performance, ETS, on behalf of the College Board, maintains test administration and security standards designed to give all students the same chance to demonstrate their abilities and to prevent any student from gaining an unfair advantage because of testing irregularities or misconduct. ETS reviews irregularities and test scores it believes have been earned under unusual circumstances.

- Students may be dismissed from the testing room and their answer sheets may be destroyed if they don't follow test regulations or instructions given by the test supervisor. Once answer sheets are submitted for scoring, ETS reserves the right not to score the answer sheet of a student who engaged in misconduct or was involved in a testing irregularity.
- ETS reserves the right to cancel scores if there is reason to doubt their validity. Before acting, ETS will let the student know the reasons for questioning the scores and will give the student an opportunity to provide additional information, confirm the scores by taking another PSAT 8/9, or cancel the scores. The student may also request arbitration in accordance with ETS's Standard Arbitration Agreement. If before, during, or after a review of questionable scores ETS finds that misconduct has occurred in connection with a test, these options will not be available even if previously offered.
- Score reviews are confidential. If it's necessary to cancel reported scores, ETS will notify score users, but the reasons for cancellation will not be disclosed. This policy does not necessarily apply in group cases.

Test Fairness Review

All new PSAT 8/9 test questions and complete new editions of the tests are reviewed by external, independent educators throughout the United States. These reviews help ensure that wording and content are clear and relevant and use language that's 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 references men and women and individuals from varied racial, ethnic, and cultural backgrounds. Using statistics, we identify questions that are harder than expected for a group of students to answer correctly given their performance on other items in the test; these questions are then removed from the test.

Questioning a Test Question

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

Assessment Design and Development
The College Board
250 Vesey Street
New York, NY 10281

Or send an email to **psatquestion@collegeboard.org**.

- In your inquiry, state 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.

NOTE: *We will not respond by email, so be sure to include your full name and mailing address.*

- The College Board will send you a written response after we review your inquiry.

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.

This section has four distinctive features:

- **Emphasis on words in context:** Both tests measure your understanding of the meaning and use of words and phrases in the context of extended passages.
- **Emphasis on command of evidence:** Both tests require you to demonstrate your understanding of how authors make use of evidence to support and develop their claims and points.
- **Inclusion of informational graphics:** Both tests contain data presented in tables, graphs, charts, and the like, which you must interpret and integrate with information in a passage.
- **Variations in text complexity:** The passages on both tests range in difficulty from those found in grades 9–10 to those found in college-entry, credit-bearing postsecondary courses.

Reading Test Overview

The Reading Test gives you a chance to show how well you understand what you read.

- **Total questions:** 42 questions with multiple-choice responses
- **Time allotted:** 55 minutes
- Calculators may not be used or be on your desk.

About the Passages

Reading passages range in length from about 500 to 750 words and come from a variety of fields, including U.S. and world literature, history/social studies, and science. Some passages are accompanied by informational graphics such as tables, graphs, or charts; questions ask you to interpret data and to synthesize information presented graphically with that in the associated passage. (Mathematical computation is not required to answer these questions.) Passages that have similar subject matter are sometimes paired and accompanied by questions that require you to make important connections between the passages as well as to understand each passage on its own.

Tips for the Reading Test

To answer each question, consider what the passage(s) 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 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 line numbers 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 are not penalized for guessing wrong, so it's to your advantage to answer each question as best you can.

Sample Reading Materials

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

- Read the passage carefully.
- Decide on the best answer to each question.
- Read the explanation for the best answer.

The directions provided match what you will see on the actual test.

PSAT 8/9 Reading Test Sample 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

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.

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 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 months after the holidays, however, my biological parents led me to believe that it was a magic and/or highly unusual cement mixer. Probably my mother told me this in a moment of adult boredom or whimsy, and then my father came home from work and joined in, also in a whimsical way. The magic—which my mother likely reported to me from her vantage on our living room's sofa, while watching me pull the cement mixer around the room by its rope, idly asking me if I was aware that it had 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 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 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 on this part, and my father later backed her up: the magic was not just that the drum of a solid wood object without batteries rotated but that it did so only when unobserved, stopping whenever observed. If, while pulling, I turned to look, my parents somberly maintained, the drum magically ceased its rotation. How was this? I never, even for a moment, doubted what they'd told me. This is why it is that adults and even parents can, unwittingly, be cruel: they cannot imagine doubt's complete absence. They have forgotten.

The point was that months were henceforward spent by me trying to devise ways to catch the drum rotating. Evidence bore out what they had told me: turning my head obviously and unsubtly around always stopped the rotation of the drum. I also tried sudden whirls. I tried having someone else pull the cement mixer. I tried incremental turns of the head while pulling ("incremental" meaning turning my head at roughly the rate of a clock's minute hand). 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 cement mixer straight toward a mirror, then through rooms that had mirrors at the periphery of my vision, then past mirrors hidden such that there was little chance that the cement mixer could even "know" that there was a mirror in the room. My strategies became very involved. I was in kindergarten and home half the day. The seriousness with which I tried must have caused my parents no little anguish of conscience.

1

The main purpose of the second paragraph (lines 4–9) is to

A) describe the toy cement mixer.
B) list the narrator's favorite toys.
C) show that simple toys are as fun as complicated ones.
D) explain why the narrator liked the toy cement mixer.

Content: Rhetoric/Analyzing purpose

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

Key: A	**Estimated Difficulty:** Easy

Choice A is the best answer because the second paragraph primarily offers a description of the toy cement mixer. In the paragraph, the narrator describes the size, appearance, and mechanisms

of the toy, noting, for example, that it was "about the size of a breadbox," had "a colored rope, with a yellow handle," and was pulled "rather like a wagon."

Choice B is incorrect because although the narrator refers in the second paragraph to "many other toy vehicles" and compares the toy cement mixer to a wagon, he does not list his toys or indicate which toys were his favorites.

Choice C is incorrect because although the narrator states in the second paragraph that the toy cement mixer was "a simple toy," he does not compare it to complicated toys or indicate that simple toys and complicated toys are equally fun to play with.

Choice D is incorrect because although the narrator describes in the second paragraph the size, appearance, and mechanisms of the toy cement mixer, he does not explain why the mixer appealed to him.

2

The narrator's interest in trying to see the toy cement mixer's drum rotate can best be described as

A) momentary.
B) satisfying.
C) reluctant.
D) intense.

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

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

Key: D	**Estimated Difficulty:** Hard

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

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 24–29 ("The 'magic' … does")
B) Lines 34–35 ("If … rotation")
C) Lines 36–38 ("This … absence")
D) Lines 39–40 ("The point … rotating")

Content: Information and Ideas/Citing textual evidence

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

Key: D	**Estimated Difficulty:** Medium

Choice D is the best answer because in this sentence, the narrator states that after being told by his biological parents that the toy cement mixer's drum would only rotate when he was pulling the mixer and when he was not looking at it, he spent "months … trying to devise ways to catch the drum rotating." That the narrator devoted a long period of time to numerous attempts to see the drum rotating suggests that his interest in seeing it rotate was very strong.

Choice A is incorrect because this sentence reveals only that the narrator's biological parents told him that the toy cement mixer's drum would magically rotate as the narrator pulled the mixer. The sentence does not show that the narrator's interest in seeing the drum rotate was very strong.

Choice B is incorrect because this sentence reveals only that the narrator's biological parents told him that the toy cement mixer's drum would stop its magical rotation whenever the narrator looked at it. The sentence does not show that the narrator's interest in seeing the drum rotate was very strong.

Choice C is incorrect because this sentence focuses on the narrator's claim that parents can be unintentionally cruel when they fail to realize that children will unquestioningly believe what they say. Although the sentence suggests that the narrator did not doubt his biological parents' claim that the toy cement mixer was magical, it does not convey the strength of his interest in seeing the drum rotate.

4

As used in line 40, "catch" most nearly means

A) overtake.

B) receive.

C) witness.

D) meet with.

Content: Information and Ideas/Interpreting words and phrases in context

Focus: Students must determine the meaning of a word in context.

Key: C	**Estimated Difficulty:** Medium

Choice C 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

In the Writing and Language Test, you will be asked to make revision and editing decisions to improve the text within a passage.

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

About the Passages

Writing and Language passages range in length from about 350 to 400 words, and they are well-written pieces covering topics related to careers, history/social studies, the humanities, and science. As in the Reading Test, some passages are accompanied by informational graphics such as tables, graphs, and charts; some questions require you to revise or edit a passage in relation to the information conveyed graphically. (Again, mathematical computation is not required to answer these questions.)

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.

- Each page of the actual Writing and Language Test is divided into two columns. Passages appear across multiple pages in the left-hand column, while associated questions appear in the right-hand column of each page.
- 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.

Sample Writing and Language Materials

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

- Read the passage carefully.
- Decide on the best answer to each question.
- Read the explanation for the best answer.

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-hand column and associated questions in the right-hand column.

The directions provided match what you will see on the actual test.

PSAT 8/9 Writing and Language Test Sample 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.

Key: A | **Estimated Difficulty:** 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 that job seekers
C) it's important for job seekers to
D) I cannot overemphasize how crucial it is that job seekers

Content: Effective language use/Style and tone

Focus: Students must revise text as necessary to ensure consistency of style and tone within a text.

Key: C | **Estimated Difficulty:** Easy

Choice C is the best answer because "it's important for job seekers to" 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 for job seekers to" 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 that job seekers" 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 that job seekers" 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.

Key: B | **Estimated Difficulty:** Medium

Choice B is the best answer because "encourage" is a contextually appropriate way to indicate that job coaches are offering their clients advice about how best to use job search websites.

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

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

Choice D is incorrect because while "provoke" does offer some sense of job coaches' encouraging role in this context, 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.

Key: C	**Estimated Difficulty:** Medium

Choice C is the best answer because "in reality" effectively contrasts the recommendation in the previous sentence ("that job seekers spend … just 10 percent of their job-hunting time on these websites") with the much higher amount people actually spend ("almost triple," "29.94 percent") presented in this and the next sentence.

Choice A is incorrect because "in other words" improperly sets up a restatement (something said in a different, often simpler way than previously) and does not convey the necessary contrast between the recommended amount of time job seekers should spend on job search websites ("just 10 percent of their job-hunting time") and the much higher amount people actually spend ("almost triple," "29.94 percent").

Choice B is incorrect because "because of this" suggests an illogical cause-effect relationship and does not convey the necessary contrast between the recommended amount of time job seekers should spend on job search websites ("just 10 percent of their job-hunting time") and the much higher amount people actually spend ("almost triple," "29.94 percent").

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

Math

The Math test evaluates your ability to solve problems and use appropriate approaches and tools strategically. It measures math skills across three areas:

- Heart of Algebra
- Problem Solving and Data Analysis
- There will also be some Passport to Advanced Math questions; these require the manipulation of complex equations.

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
- 31 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

Some questions are like those you may have seen in your math courses. The ability to reason logically in a variety of situations, including ones related to career, science, and social studies, is tested throughout. You will also encounter at least three item sets that include more than one question about a given scenario.

Tips for the Math Test

- Familiarize yourself with the directions ahead of time.
- The test doesn't require you to memorize formulas. Commonly used formulas are provided in the test booklet at the beginning of each math portion. Other formulas that are needed are provided in the items 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. Ask yourself the following questions before you solve each problem: 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 will 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. (See "Calculator Tips.")
- Eliminate choices. If you don't know the correct answer to a question, try some of the choices. It's sometimes easier to find the wrong answers

than the correct one. On some questions, you can 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.
- All figures are drawn to scale unless otherwise indicated.

Tips for Student-Produced Response Questions

- Review the directions on page 15 for gridding the student-produced response questions.
- Know the rules for gridding mixed numbers and repeating decimals before taking the test.
- Check your work if your answer doesn't fit on the grid. If you obtain a negative value or a value greater than 9999, you have made an error.
- A zero cannot be gridded in the leftmost column of the answer grid. For example, if your answer is 0.25, you must grid .25 or convert it to the fraction $\frac{1}{4}$.
- A fraction does not have to be reduced unless it will not fit on the grid. For example, if $\frac{3}{5}$ is the correct answer to a question, both $\frac{6}{10}$ and $\frac{9}{15}$ are considered correct and do not need to be reduced prior to entering in the grid.

Calculator Policy

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

Calculator Tips

- Remember to bring your calculator on test day. You should be familiar with how to use the calculator you bring to the test.
- Make sure your calculator is in good working order and that its batteries are fresh. If your calculator fails during testing and you have no backup, you will have to complete the test without it (or cancel your scores for the entire test).
- Don't buy an expensive, sophisticated calculator just to take the test. Although you can use them for the test, more sophisticated calculators are not required for any problem.
- Don't try to use a calculator on every question in the calculator portion. First, decide how you will solve the problem, and then decide whether to use the calculator. The calculator is meant to aid you in solving problems, not to get in the way.
- All questions in the calculator portion can be answered without a calculator, but for some questions a calculator may be helpful. Look first for algebra structures to solve problems before reaching for your calculator.
- Take the practice test with a calculator at hand for the calculator portion of the test. This will help you practice determining which types of questions you should use your calculator to answer.

Unacceptable Calculators

Do NOT bring these types of calculators to the test:

- Laptops or other computers, tablets, cell phones, or smartphones
- Models that can access the internet or have wireless, Bluetooth, cellular, audio/video recording and playing, camera, or any other smartphone-type features
- Models that have a typewriter-like keypad, pen-input, or stylus
- Models that use electrical outlets, make noise, or use paper tape (unless approved to use 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). Check the list of acceptable calculators for models that are permitted.

Acceptable Calculators

Most questions on the Math Test – Calculator portion can be solved without a calculator, but you may find using a calculator helpful on some questions. A scientific or graphing calculator is recommended for the Math Test – Calculator portion.

Calculators permitted during testing are:

- Most graphing calculators (see below)
- All scientific calculators
- Four-function calculators (not recommended)

If you bring a calculator with large characters (one-inch high or more) or raised display that might be visible to other test-takers, the test supervisor has discretion to seat you in a location where other test-takers cannot view the large or raised display.

You should be familiar with the operation of your calculator and know when the calculator can be used effectively. All questions on the Math Test – Calculator can be solved without a calculator; however, using a calculator on some questions may be helpful to you.

On the Math Test – Calculator portion, all scientific calculators are permitted. A four-function calculator is acceptable but not recommended.

The graphing calculators listed in the table below are permitted.

Approved Graphing Calculators

Casio		**Hewlett-Packard**	**Sharp**	**Texas Instruments**
FX-6000 series	CFX-9800 series	HP-9G	EL-5200	TI-73
FX-6200 series	CFX-9850 series	HP-28 series	EL-9200 series	TI-80
FX-6300 series	CFX-9950 series	HP-38G	EL-9300 series	TI-81
FX-6500 series	CFX-9970 series	HP-39 series	EL-9600 series*	TI-82
FX-7000 series	FX 1.0 series	HP-40 series	EL-9900 series	TI-83
FX-7300 series	Algebra FX 2.0 series	HP-48 series		TI-83 Plus
FX-7400 series	FX-CG-10 (PRIZM)	HP-49 series		TI-83 Plus Silver
FX-7500 series	FX-CB-20 series	HP-50 series		TI-84 Plus
FX-7700 series	Graph 25 series	HP Prime		TI-84 Plus CE
FX-7800 series	Graph 35 series			TI-84 Plus Silver
FX-8000 series	Graph 75 series	**Other**		TI-84 Plus C Silver
FX-8500 series	Graph 95 series	Datexx DS-883		TI-85
FX-8700 series	Graph 100 series	Micronta		TI-86
FX-8800 series	FX-CG-500z*	Smart^2		TI-89
FX-9700 series				TI-89 Titanium
FX-9750 series		**Radio Shack**		TI-Nspire
FX-9860 series		EC-4033		TI-Nspire CX
		EC-4034		TI-Nspire CM-C
		EC-4037		TI-Nspire CAS
				TI-Nspire CX CAS
				TI-Nspire CM-C CAS
				TI-Nspire CX-C CAS

*The use of the stylus is not permitted.

Sample Math Materials

On the following pages are samples of the kinds of Math Test – No Calculator and Math Test – Calculator questions that may appear on your test. For these sample materials:

- Review the notes and reference materials.
- Decide on the best answer to each multiple-choice question.
- Read the explanation for the best answer to each question.

The notes and reference materials will appear at the beginning of both portions on the actual test. The explanation of the student-produced responses will appear in both portions of the actual test, but only once in these sample materials (page 15). The directions provided here match what you will see on the actual text.

PSAT 8/9 Math Test – No Calculator
Sample Questions

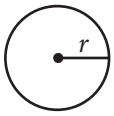
DIRECTIONS

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

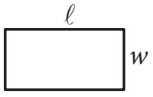
NOTES

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

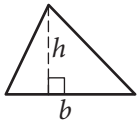
REFERENCE



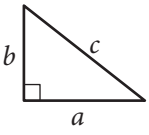
$A = \pi r^2$
$C = 2\pi r$



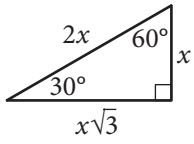
$A = \ell w$

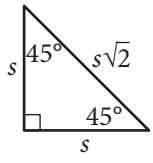


$A = \frac{1}{2}bh$

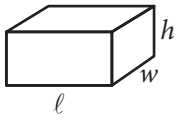


$c^2 = a^2 + b^2$

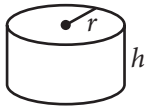




Special Right Triangles

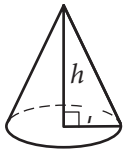


$V = \ell wh$

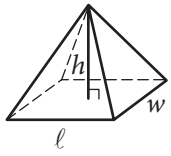


$V = \pi r^2 h$

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



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



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

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

The number of radians of arc in a circle is 2π.

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. However, the student who chooses this answer may have erroneously calculated 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.

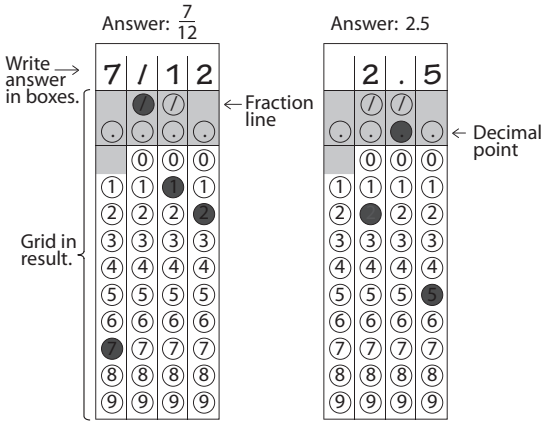
Choice C is incorrect. This answer may be the result of erroneously assigning x to be the number of hours that Light B is on; x is actually defined in the stem as the number of hours that Light A is on.

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.

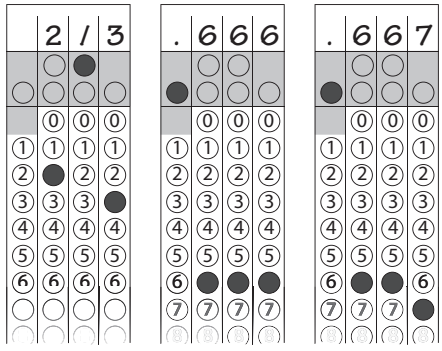
For question 3, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

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

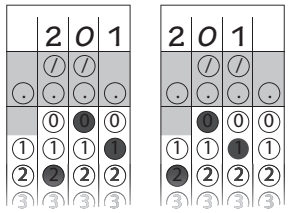
is entered into the grid, it will be interpreted as $\frac{31}{2}$, not $3\frac{1}{2}$.)
6. **Decimal answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.



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



Answer: 201 – either position is correct



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

$$2x + 3y = 14$$
$$3x = y + 10$$

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

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.

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

PSAT 8/9 Math Test – Calculator
Sample Questions

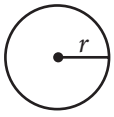
DIRECTIONS

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

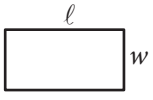
NOTES

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

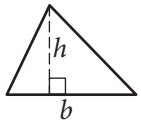
REFERENCE



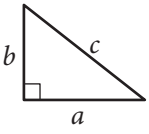
$A = \pi r^2$
$C = 2\pi r$



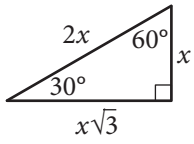
$A = \ell w$

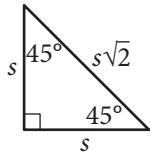


$A = \frac{1}{2}bh$

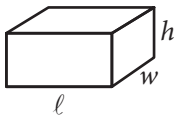


$c^2 = a^2 + b^2$

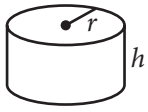




Special Right Triangles

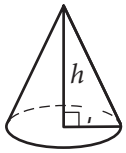


$V = \ell wh$

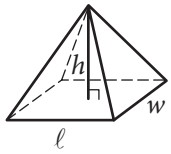


$V = \pi r^2 h$

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



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



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

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

The number of radians of arc in a circle is 2π.

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

1

A real estate broker earns a fixed percentage of the selling price of a house as a commission. The broker sold a house for $278,000 and earned a commission of $16,680. What would the broker's commission be on a house that sells for $324,000 ?

A) $14,311

B) $19,440

C) $46,000

D) $62,680

Content: Problem Solving and Data Analysis/Ratios, rates, proportional relationships, and units

Focus: Students must use a proportional relationship between two variables to solve a multistep problem in an applied scenario.

No Calculator

Key: B	**Estimated Difficulty:** Easy

Choice B is correct. The rate of the commission can be found by setting up a proportion comparing the commission on each sale to the selling price of each house, $\frac{16{,}680}{278{,}000} = \frac{x}{324{,}000}$. Cross-multiplying produces the equation $278{,}000x = (16{,}680)(324{,}000)$, 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.

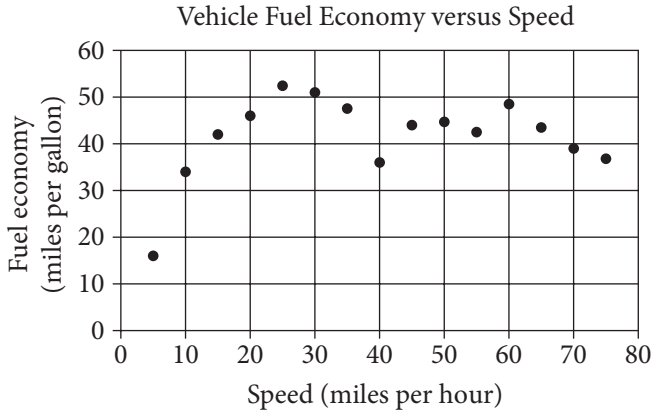
Choice A is incorrect. This answer may be the result of incorrectly setting up the proportion as $\frac{16{,}680}{324{,}000} = \frac{x}{278{,}000}$, solving $16{,}680 \times 278{,}000 = 324{,}000x$, and then rounding and the answer down to $14,311.

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 2–3 refer to the following information.

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



2

Based on the scatterplot, over which speed intervals, in miles per hour, does the relationship between the speed and fuel economy appear to be negative?

A) 5–25 and 40–50

B) 15–35 and 40–50

C) 20–35, 40–55, and 60–75

D) 25–40, 50–55, and 60–75

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

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

Key: D	**Estimated Difficulty:** Medium

Choice D is correct. The relationship is negative when the *y*-values consistently decrease as the *x*-values increase. Visual inspection of the scatterplot shows a negative relationship for the data points over the following speed intervals: 25 to 40, 50 to 55, and 60 to 75 miles per hour.

Choice A is incorrect. This answer corresponds to an interval of speed over which the relationship between the speed and fuel economy appears to be positive.

Choice B is incorrect. This answer corresponds to an interval of speed over which the relationship between the speed and fuel economy is not always negative.

Choice C is incorrect. This answer corresponds to an interval of speed over which the relationship between the speed and fuel economy is not always negative.

Based on the trend in the data shown for a car traveling between 5 and 20 miles per hour, which of the following is the best estimate of the fuel economy, in miles per gallon, for the vehicle when it travels 17 miles per hour?

A) 48

B) 44

C) 40

D) 36

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

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

Calculator

Key: B	**Estimated Difficulty:** Medium

Choice B is correct. From visual inspection of a plausible line of best fit in the interval of 5 to 20 miles per hour (mph), the student can determine that the best estimate of the fuel economy at 17 mph will be greater than 40 miles per gallon (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, you are asked to solve the problem and enter your answer in the grid.

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

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 $f(1) - g(1) = 3 - 1 = 2$.

Content: Passport to Advanced Math/Nonlinear functions

Focus: Students must use function notation to solve a conceptual problem.

Calculator

Key: 2	**Estimated Difficulty:** Hard

Page 6

Reminder: If you erase, do so completely.

COMPLETE MARK ● EXAMPLES OF INCOMPLETE MARKS

You must use a No. 2 pencil and marks must be complete. Do not use a mechanical pencil. It is very important that you fill in the entire circle darkly and completely. If you change your response, erase as completely as possible. Incomplete marks or erasures may affect your score.

SECTION 1

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

No Calculator Allowed

SECTION 2

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

No Calculator Allowed

Quality Assurance Mark

SECTION 3

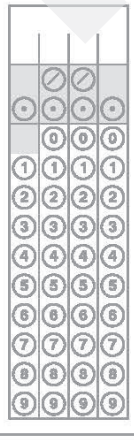
1 Ⓐ Ⓑ Ⓒ Ⓓ	5 Ⓐ Ⓑ Ⓒ Ⓓ	8 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ	6 Ⓐ Ⓑ Ⓒ Ⓓ	9 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ	7 Ⓐ Ⓑ Ⓒ Ⓓ	10 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ		

No Calculator Allowed

CAUTION *Grid answers for the remainder of Section 3 below, as directed in your test book.*

Student-Produced Responses ONLY ANSWERS THAT ARE GRIDDED WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES.

11



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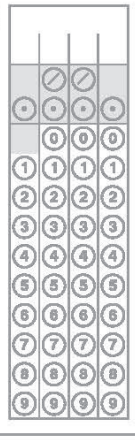

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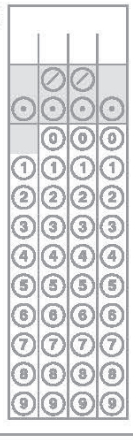

No Calculator Allowed

PLEASE DO NOT WRITE IN THIS AREA

SERIAL #

PRACTICE

Reminder: If you erase, do so completely.

COMPLETE MARK ● EXAMPLES OF INCOMPLETE MARKS

You must use a No. 2 pencil and marks must be complete. Do not use a mechanical pencil. It is very important that you fill in the entire circle darkly and completely. If you change your response, erase as completely as possible. Incomplete marks or erasures may affect your score.

SECTION 4

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

Calculator Allowed

CAUTION *Grid answers for the remainder of Section 4 below, as directed in your test book.*

Student-Produced Responses

ONLY ANSWERS THAT ARE GRIDDED WILL BE SCORED. YOU WILL NOT RECEIVE CREDIT FOR ANYTHING WRITTEN IN THE BOXES.

Calculator Allowed

Quality Assurance Mark

22 23 24 25

PRACTICE

Page 8

SPECIAL QUESTIONS

1	A	B	C	D	E	F	G	H	I	J
2	A	B	C	D	E	F	G	H	I	J
3	A	B	C	D	E	F	G	H	I	J
4	A	B	C	D	E	F	G	H	I	J
5	A	B	C	D	E	F	G	H	I	J
6	A	B	C	D	E	F	G	H	I	J
7	A	B	C	D	E	F	G	H	I	J
8	A	B	C	D	E	F	G	H	I	J

PRACTICE

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SERIAL #