

The
Princeton
Review®

SAT®

PREMIUM

Prep

2023

- 9 full-length practice tests*
- Proven techniques for success
- Complete content review
- Premium online extras

By the Staff of The Princeton Review

*9 practice tests included with purchase (4 in the book & 5 online)

SAT is a trademark registered by the College Board, which is not affiliated with, and does not endorse, this product.





SAT[®]

PREMIUM PREP

2023 Edition

The Staff of The Princeton Review

PrincetonReview.com

| Penguin
| Random
| House



Editorial

Rob Franek, Editor-in-Chief
David Soto, Senior Director, Data Operations
Stephen Koch, Senior Manager, Data Operations
Deborah Weber, Director of Production
Jason Ullmeyer, Production Design Manager
Jennifer Chapman, Senior Production Artist
Selena Coppock, Director of Editorial
Aaron Riccio, Senior Editor
Meave Shelton, Senior Editor
Chris Chimera, Editor
Orion McBean, Editor
Patricia Murphy, Editor
Laura Rose, Editor
Alexa Schmitt Bugler, Editorial Assistant

Penguin Random House Publishing Team

Tom Russell, VP, Publisher
Alison Stoltzfus, Senior Director, Publishing
Brett Wright, Senior Editor
Emily Hoffman, Assistant Managing Editor
Ellen Reed, Production Manager
Suzanne Lee, Designer
Eugenia Lo, Publishing Assistant

The Princeton Review

110 East 42nd Street, 7th Floor

New York, NY 10017

Email: editorialsupport@review.com

Copyright © 2022 by TPR Education IP Holdings, LLC. All rights reserved.

Published in the United States by Penguin Random House LLC, New York, and in Canada by Random House of Canada, a division of Penguin Random House Ltd., Toronto.

Terms of Service: The Princeton Review Online Companion Tools (“Student Tools”) for retail books are available for only the two most recent editions of that book. Student Tools may be activated only once per eligible book purchased for a total of 24 months of access. Activation of Student Tools more than once per book is in direct violation of these Terms of Service and may result in discontinuation of access to Student Tools Services.

ISBN 9780593450581

Ebook ISBN 9780593450987

SAT is a trademark registered by the College Board, which is not affiliated with, and does not endorse, this product.

The Princeton Review is not affiliated with Princeton University.

Permission has been granted to reprint portions of the following:

“The Windshield-Pitting Mystery of 1954.” © 2015 National Public Radio, Inc. Excerpts from news report titled “The Windshield-Pitting Mystery Of 1954” by Linton Weeks was originally published on NPR.org on May 28, 2015, and is used with the permission of NPR. Any unauthorized duplication is strictly prohibited.

Priit Vesilind with James and Maureen Tusty, *The Singing Revolution*. © 2008 by Sky Films Incorporated. www.singingrevolution.com.

“Hazy Days in Our Parks” © 2015 Charles Petit. Excerpt from “Hazy Days in Our Parks” by Charles Petit originally published by Smithsonian Magazine in June 2005.

Gardner’s Art Through the Ages by Horst De La Croix, Richard G. Tansey, Diane Kirkpatrick. 9th edition, 1991. Copyright © 1991 by Harcourt Brace Jovanovich, Inc. Republished with permission of Cengage Learning SO. Permission conveyed through Copyright Clearance Center, Inc.

“The Parthenon Frieze—Another View.” © 1977 by John Boardman.

The Creators: A History of Heroes of the Imagination by Daniel J. Boorstin, copyright © 1992 by Daniel J. Boorstin. Used by permission of Random House, an imprint and division of Penguin Random House LLC. All rights reserved. Any third party use of this material, outside of this publication, is prohibited. Interested parties must apply directly to Penguin Random House LLC for permission. Also used by permission of The Orion Publishing Group, London.

“Tiny brains, but shared smarts,” from the National Science Foundation, June 17, 2015. Reprinted with permission.

“I wrote my own speech once. It didn’t sound like me at all!” Reprinted by permission of CartoonStock.com.

“Telehealth expansion needs payment, coverage policy advances,” by Dr. Nabil El Sanadi. Reprinted with permission, *Modern Healthcare* September 12, 2015. © Crain Communications, Inc.

How To Fly A Horse: The Secret History of Creation, Invention, and Discovery. © 2015 by Kevin Ashton.

“Free Upgrades, Unfortunately” by Elsa Youngsteadt. Copyright © 2006 by *American Scientist*. Reprinted with permission of American Scientist.

“Fill up your gas tank with bamboo?” by Joe Turner, *Science*, February 2, 2015. Reprinted with permission of AAAS.

“What Darwin Didn’t Know” by Thomas Hayden. February 2009. *Smithsonian* magazine.

“What Happens If GPS Fails?” by Dan Glass. *The Atlantic*, June 13, 2016. Reprinted by permission of Copyright Clearance Center.

Excerpt from *The Matter Myth: Dramatic Discoveries that Challenge our Understanding of Physical Reality*, by Paul Davies and John Gribbin. Copyright © 1991 by Orion Productions and John Gribbin. Reprinted with the permission of Simon & Schuster, Inc. All rights reserved.

“Scientists Discover Children’s Cells Living in Mother’s Brains,” by Robert Martone. Originally published December 4, 2012 in *Scientific American*. Copyright © 2012 Scientific American, a division of Nature America, Inc. All rights reserved.

Copyright, Imperial College London. “Asteroid killed off the dinosaurs, says international scientific panel.” *Science Daily*. Reprinted with permission.

“The Dying of the Dead Sea” by Josh Hammer. © 2005 by *Smithsonian* magazine.

“In Humans and Animals, Social Learning Drives Intelligence” © 2018 Sussex Publishers, LLC (*Psychology Today*)

“Birth of New Neurons in the Human Hippocampus Ends in Childhood” by Nicholas Weiler. © March 2018 by University of California San Francisco.

“Adult neurogenesis in humans: Dogma overturned, again and again?” by Laura C. Andrae. © 2018 by *Science Translational Medicine*

“Why We Sleep Badly on Our First Night in a New Place” by Ed Yong. © 2018 by The Atlantic Monthly Group.

Editor: Chris Chimera

Production Editors: Liz Dacey and Emily Epstein White

Production Artist: Jason Ullmeyer

Cover art by Paul Brady / Alamy Stock Photo

Cover design by Suzanne Lee

a_prh_6.0_140224945_c0_r0

Acknowledgments

An SAT course is much more than clever techniques and powerful computer score reports. The reason our results are great is that our teachers care so much about their students. Many teachers have gone out of their way to improve the course, often going so far as to write their own materials, some of which we have incorporated into our course manuals as well as into this book. The list of these teachers could fill this page.

Special thanks to all those who contributed to this year's edition: Sara Kuperstein, Amy Minster, Scott O'Neal, Cynthia Ward, Anne Bader, Gabby Budzon, Brittany Lee, Jomil London, Jason Morgan, Jess Thomas, and Chris Vakulchik.

We are also, as always, very appreciative of the time and attention given to each page by Jason Ullmeyer, Liz Dacey, Emily Epstein White.

Finally, we would like to thank the people who truly have taught us everything we know about the SAT: our students.

Contents

[Foreword](#)

[Get More \(Free\) Content](#)

[Part I: Orientation](#)

1 [The SAT, The Princeton Review, and You](#)

2 [Practice Test 1](#)

3 [Practice Test 1: Answers and Explanations](#)

4 [Cracking the SAT: Basic Principles](#)

[Part II: How to Crack the Reading Test](#)

5 [The Reading Test: Basic Approach](#)

[SAT Reading: Cracking the Passages](#)

[Sample Passage and Questions](#)

[Steps of the Basic Approach](#)

[Using the Basic Approach](#)

6 [More Question Types](#)

[More Question Types on the Reading Test](#)

[Paired Questions](#)

[Purpose Questions](#)

[General Questions](#)

[Charts and Graphs](#)

[Dual Passages](#)

[Dual Passage Drill](#)

[Dual Passage Drill Answers and Explanations](#)

7 [Advanced Reading Skills](#)

[When the Going Gets Tough](#)

[Translating](#)

[Matching Back Answer Choices](#)

8 [Reading Drills](#)

[Reading Drill 1](#)

[Chapter Drill Answers and Explanations](#)

Part III: How to Crack the Writing and Language Test

9 [Introduction to Writing and Language Strategy](#)

[Can You Really Test Writing on a Multiple-Choice Exam](#)

[Where Did All the Questions Go?](#)

[The Answer Choices Ask the Questions](#)

[Learn from the Answer Choices](#)

[POE Does the Big Work](#)

[All of the Questions Can't Be Wrong All of the Time](#)

[How to Ace the Writing and Language Test: A Strategy](#)

[Writing and Language Drill 1](#)

[Writing and Language Drill 1 Answer Key](#)

10 [Words](#)

[The Words Change, but the Song Remains the Same](#)

[Transitions](#)

[Verbs](#)

[Pronouns](#)

[Vocabulary](#)

[Concision](#)

[More Fun with Words](#)

[Writing and Language Drill 2](#)

[Writing and Language Drill 2: Answers and Explanations](#)

11 [Questions](#)

[And Then SAT Was Like, "Hey, Can I Ask You a Question?"](#)

[Purpose](#)

[Adding and Deleting](#)

[Order](#)

[Combining Sentences](#)

[What Do Graphs Have to Do with Grammar?](#)

[Conclusion](#)

[Writing and Language Drill 3](#)

[Writing and Language Drill 3: Answers and Explanations](#)

12 [Punctuation](#)

[Wait, the SAT Wants Me to Know How to Use a Semicolon?](#)

[STOP, GO, and the Vertical Line Test](#)

[A Slight Pause for Commas](#)

[Your Going to Be Tested on Apostrophe's](#)

[Punctuation Questions in Disguise](#)

[Conclusion](#)

[Writing and Language Drill 4](#)

[Writing and Language Drill 4: Answers and Explanations](#)

Part IV: How to Crack the Math Test

[A Few Words about SAT Math](#)

13 [SAT Math: The Big Picture](#)

[The Big Picture](#)

[Ballparking](#)

[Read the Final Question](#)

[One Piece at a Time](#)

[Write Stuff Down](#)

[The Calculator](#)

14 [Fun with Fundamentals](#)

[The Building Blocks](#)

[There Are Only Six Operations](#)

[Fractions](#)

[Decimals](#)

[Exponents and Square Roots](#)

[How to Read Charts and Graphs](#)

[Fundamentals Drill 1: No Calculator Section](#)

[Fundamentals Drill 2: Calculator-Permitted Section](#)

[Chapter Drill Answers and Explanations](#)

15 [Algebra: Cracking the System](#)

[SAT Algebra: Cracking the System](#)

[Fundamentals of SAT Algebra](#)

[Solving Radical Equations](#)

[Solving Rational Equations](#)

[Solving for Expressions](#)

[Solving Simultaneous Equations](#)

[Solving Inequalities](#)

[Simplifying Expressions](#)

[Solving Quadratic Equations](#)

[Imaginary and Complex Numbers](#)

[When Values are Absolute](#)

[Algebra Drill 1: No Calculator Section](#)

[Algebra Drill 2: Calculator-Permitted Section](#)

[Chapter Drill Answers and Explanations](#)

16 [Other SAT Algebra Strategies](#)

[Princeton Review Algebra—AKA How to Avoid Algebra on the SAT](#)

[Plugging In the Answers \(PITA\)](#)

[Solving Rational Equations](#)

[Solving Radical Equations](#)

[Plugging In Your Own Numbers](#)

[Meaning In Context](#)

[SAT Algebra Strategies Drill 1](#)

[SAT Algebra Strategies Drill 2](#)

[Chapter Drill Answers and Explanations](#)

17 [Advanced Arithmetic](#)

[Ratios and Proportions](#)

[Percentages](#)

[Percent Change](#)

[Percentages: Advanced Principles](#)

[Averages](#)

[What Is a Median?](#)

[What Is a Mode?](#)

[What is a Frequency Table?](#)

[What Is a Range?](#)

[What is Standard Deviation?](#)

[Rates](#)

[Probability](#)

[Sets of Questions](#)

[Analysis in Science](#)

[Advanced Arithmetic Drill: Calculator-Permitted Section](#)

[Chapter Drill Answers and Explanations](#)

18 [Functions and Graphs](#)

[Function Fundamentals](#)

[The Coordinate Plane](#)

[Points on a Line](#)

[Slope](#)

[Equations of a Line](#)

[Parallel and Perpendicular Lines](#)

[Two Equations with Infinitely Many Solutions](#)

[Two Equations with No Solutions](#)

[Points of Intersection](#)

[Other Things You Can Do to a Line](#)

[Root, Solutions, and x-intercepts](#)

[Graphing Functions](#)

[Equations of a Parabola](#)

[Equation of a Circle](#)

[Functions and Graphs Drill 1](#)

[Functions and Graphs Drill 2](#)

[Chapter Drill Answers and Explanations](#)

19 [Geometry](#)

[Geometry on the SAT](#)

[Lines and Angles](#)

[Triangles](#)

[Circles](#)

[Rectangles and Squares](#)

[Polygons](#)

[Volume](#)

[Ballparking](#)

[Plugging In](#)

[Geometry Drill 1](#)

[Geometry Drill 2](#)

[Chapter Drill Answers and Explanations](#)

20 [Grid-Ins](#)

[What is a Grid-In?](#)

[The Instructions](#)

[Fractions or Decimals: Your Choice](#)

[Gridding In: A Test Drive](#)

[More POOD](#)

[Range of Answers](#)

[Extended Thinking](#)

[Grid-In Drill 1](#)

[Grid-In Drill 2](#)

[Chapter Drill Answers and Explanations](#)

Part V: Taking the SAT

Part VI: Practice Tests

[Practice Test 2](#)

[Practice Test 2: Answers and Explanations](#)

[Practice Test 3](#)

[Practice Test 3: Answers and Explanations](#)

[Practice Test 4](#)

[Practice Test 4: Answers and Explanations](#)

Foreword

Welcome to *Princeton Review SAT Prep*! The SAT is not a test of aptitude, how good of a person you are, or how successful you will be in life. The SAT simply tests how well you take the SAT. And performing well on the SAT is a skill, one that can be learned like any other. The Princeton Review was founded more than 35 years ago on this very simple idea, and—as our students’ test scores show—our approach is the one that works.

Sure, you want to do well on the SAT, but you don’t need to let the test intimidate you. As you prepare, remember two important things about the SAT:

- **It doesn’t measure the stuff that matters.** It measures neither intelligence nor the depth and breadth of what you’re learning in high school. It doesn’t predict college grades as well as your high school grades do. Colleges know there is more to you as a student—and as a person—than what you do in a single 3-hour test administered on a random Saturday morning.
- **It underpredicts the college performance of women, minorities, and disadvantaged students.** Historically, women have done better than men in college but worse on the SAT. For a test that is used to help predict performance in college, that’s a pretty poor record.

Your preparation for the SAT starts here. We at The Princeton Review spend millions of dollars every year improving our methods and materials so that students are always ready for the SAT, and we’ll get you ready too.

However, there is no magic pill: just buying this book isn’t going to improve your scores. Solid score improvement takes commitment and effort from you. If you read this book carefully and work through the problems and practice tests included in the book, not only will you be well-versed in the format of the SAT and the concepts it tests, you will also have a sound overall strategy and a powerful arsenal of test-taking strategies that you can apply to whatever you encounter on test day.

In addition to the comprehensive review in *SAT Prep*, we’ve included additional practice online, accessible through our website—PrincetonReview.com—to make it even more efficient at helping you to improve your scores. Before doing anything else, be sure to register your book at PrincetonReview.com/prep. When you do, you’ll gain access to the most up-to-date information on the SAT, as well as more SAT and college admissions resources.

The more you take advantage of the resources we’ve included in this book and the online student tools that go with it, the better you’ll do on the test. Read the book carefully and learn our strategies. Take the full-length practice tests under actual timed conditions. Analyze your performance and focus your efforts where you need improvement. Perhaps even study with a friend to stay motivated. Attend a free event at The Princeton Review to learn more about the SAT and how it is used in the college admissions process. Search our website for an event that will take place near you or take place online!

This test is challenging, but you’re on the right track. We’ll be with you all the way.

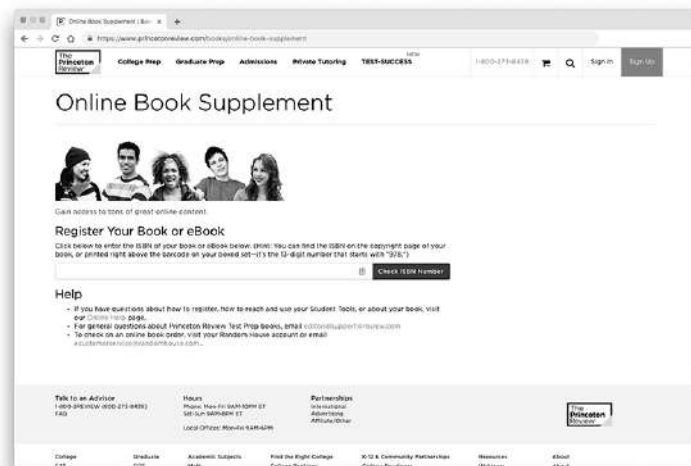
Good luck!

The Staff of The Princeton Review

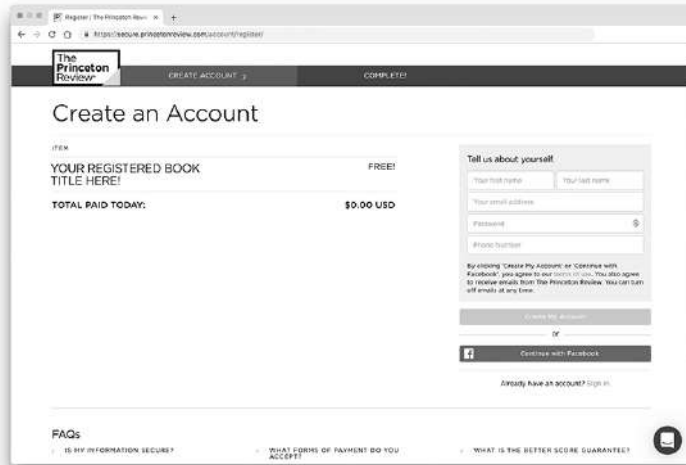
Get More (Free) Content at [PrincetonReview.com/college-prep](https://www.princetonreview.com/college-prep)

As easy as **1•2•3**

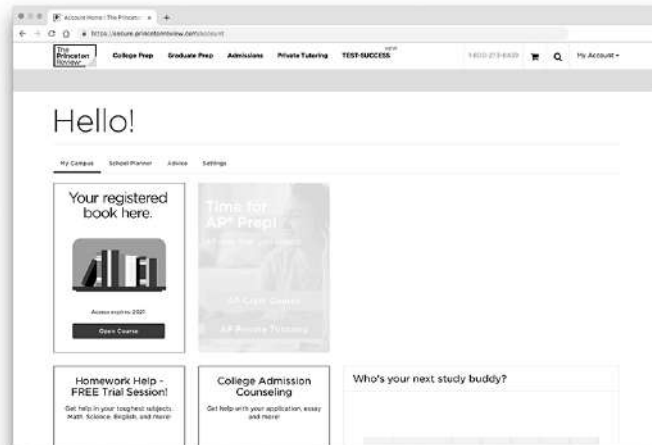
1 Go to [PrincetonReview.com/college-prep](https://www.princetonreview.com/college-prep) or scan the QR code and enter the following ISBN for your book: **9780593450987**



2 Answer a few simple questions to set up an exclusive Princeton Review account.
(If you already have one, you can just log in.)



3 Enjoy access to your **FREE** content!



Need to report a potential **content** issue?



Contact EditorialSupport@review.com and include:

- full title of the book
- ISBN
- page number

Need to report a **technical** issue?



Contact TPRStudentTech@review.com and provide:

- your full name
- email address used to register the book
- full book title and ISBN
- Operating system (Mac/PC) and browser (Chrome, Firefox, Safari, etc.)

Once you've registered, you can...

- Access and print out five more full-length practice tests as well as the corresponding answers and explanations
- Check out bonus Premium content, including comprehensive study guides and short videos to help enhance your test prep
- Read our special "SAT Insider" and get valuable advice about the college application process, including tips for writing a great essay and where to apply for financial aid
- Download printable resources such as score conversion tables, extra bubble sheets, and essay lessons for students with required essays for SAT School Day administrations
- If you're still choosing between colleges, use our searchable rankings of *The Best 388 Colleges* to find out more information about your dream school
- Check to see if there have been any corrections or updates to this edition
- Get our take on any recent or pending updates to the SAT

Look For These Icons Throughout The Book



PREMIUM PORTAL



ONLINE VIDEO TUTORIALS



ONLINE ARTICLES



ONLINE PRACTICE TESTS



PROVEN TECHNIQUES



APPLIED STRATEGIES



STUDY BREAK



OTHER REFERENCES



WATCH US CRACK IT

Part I

Orientation

- 1 [The SAT, The Princeton Review, and You](#)
- 2 [Practice Test 1](#)
- 3 [Practice Test 1: Answers and Explanations](#)
- 4 [Cracking the SAT: Basic Principles](#)

LET'S GET THIS PARTY STARTED!

You are about to unlock a vast repertoire of powerful strategies that have one and only one purpose: to help you get a better score on the SAT. This book contains the collected wisdom of The Princeton Review, which has spent more than 35 years helping students achieve higher scores on standardized tests. We've devoted millions of dollars and years of our lives to beating the SAT. It's what we do (twisted as it may be), and we want you to benefit from our expertise.



Welcome!

Welcome to the Premium Edition of *SAT Prep*. This edition comes chock-full of awesome online resources, including five more full-length practice tests, as well as videos, study guides, college admissions articles, and more. See "Get More (Free) Content" on [this page](#) for step-by-step instructions for accessing your exclusive Premium tools. Happy test prepping!

WHAT IS THE PRINCETON REVIEW?

The Princeton Review is the leader in test prep. Our goal is to help students everywhere crack the SAT and a bunch of other standardized tests, including the PSAT and ACT as well as graduate-level exams like the GRE and GMAT. Starting from humble beginnings in 1981, The Princeton Review is now the nation's largest SAT preparation company. We offer courses in more than 500 locations in 20 different countries, as well as online; we also publish best-selling books, like the one you're holding, and online resources to get students ready for this test.

Our techniques work. We developed them after spending countless hours scrutinizing real SATs, analyzing them with computers, and proving our theories in the classroom.

The Princeton Review Way

This book will show you how to score higher on the SAT by teaching you to:

- extract important information from tricky test questions
- take full advantage of the limited time allowed
- systematically answer questions—even if you don't fully understand them
- avoid the traps that the SAT has laid for you (and use those traps to your advantage)

The test is written and administered by the College Board, and they know that our techniques work. For years, the test-writers claimed that the SAT couldn't be coached. But we've proven that view wrong, and they in turn have struggled to find ways of changing the SAT so that The Princeton Review won't be able to crack it—in effect, acknowledging what our students have known all along: that our techniques really do work. (In fact, the College Board has recently admitted that students can and should prepare for the SAT. So there!) The SAT has remained highly vulnerable to our techniques. And the current version of the SAT is even more susceptible to our methods. Read this book, work through the drills, take the practice tests, and you'll see what we mean.

Study!

If you were getting ready to take a biology test, you'd study biology. If you were preparing for a basketball game, you'd practice basketball. So, if you're preparing for the SAT, you need to study and practice for the SAT. The exam can't test everything you learn in school (in fact, it tests very little), so concentrate on learning what it *does* test.

Chapter 1

The SAT, The Princeton Review, and You

Welcome! Our job is to help you get the best possible score on the SAT. This chapter tells you what to expect from the SAT as well as some specifics about the test. It will also explain how to make the most of all your Princeton Review materials.

GENERAL INFORMATION ABOUT THE SAT

You may have bought this book because you know nothing about the SAT, or perhaps you took the test once and want to raise your score. Either way, it's important to know about the test and the people who write it. Let's take a second to discuss some SAT facts: some of them may surprise you.

This Just In

The SAT is changing again. In January 2022, College Board announced that the SAT will be going digital and getting a makeover in the process. These changes will go into effect in March 2023 for international students and in March 2024 for students in the U.S. The Princeton Review will be tracking these changes and will continue to offer our students all the tools they need to prepare for this new version of the SAT.

What Does the SAT Test?

Just because the SAT features math, reading, and writing questions doesn't mean that it reflects what you learned in school. You can ace calculus or write like Faulkner and still struggle with the SAT. The test-writers claim that the test predicts how well you will do in college by measuring "reasoning ability," but all the SAT really measures is how well you take the SAT. It does *not* reveal how smart—or how good—a person you are.

Who Writes the SAT?

Even though colleges and universities make wide use of the SAT, they're not the ones who write the test. That's the job of the College Board, the organization that creates the tests and decides how they will be administered and used.

The test-writers are often criticized for the SAT. Many educators have argued that the test does not measure the skills you really need for college. This led them in 2005 to overhaul the entire test, only to revise it all over again in early 2016. The important takeaway here is that the people who write the SAT are professional test-writers, and, with some practice, it's possible to beat them at their own game.

Wait, *Who* Writes This Test?

You may be surprised to learn that the people who write SAT test questions are NOT necessarily teachers or college professors. The people who write the SAT are professional test-writers, not superhuman geniuses, so you can beat them at their own game.

What's on the SAT?

The SAT is 3 hours long for most students. In some states, a 50-minute essay is also required as part of the SAT School Day administration. If you are taking such an administration, check to see whether the essay will be part of it. The SAT consists of the following:

- 1 multiple-choice Reading Test (52 questions, 65 minutes)
- 1 multiple-choice Writing and Language Test (44 questions, 35 minutes)
- 1 Math Test, consisting of a No Calculator section (20 questions, 25 minutes) and a Calculator section (38 questions, 55 minutes)

Key Takeaway

What really matters to you as a test-taker is how the test is divided up and what YOU need to know to crack it!

Both sections of the Math Test contain some student-produced-response questions called Grid-Ins, but all other questions on the exam are multiple choice. All multiple-choice sections on the SAT have four possible answer choices.

Each part of this book covers these tests in detail, but here’s a brief rundown of what you can expect.



Want More?

For even more practice, check out *10 Practice Tests for the SAT*.

Reading Test

Your scores on the Reading Test and the Writing and Language Test (see below) together make up your Evidence-Based Reading and Writing score on the SAT. The Reading Test is 65 minutes long and consists of 52 questions, all of which are passage based and multiple choice. Passages may be paired with informational graphics, such as charts or graphs, and there will be a series of questions based on a pair of passages. The selected passages will be from previously published works in the areas of world literature, history/social studies, and science. Questions based on science passages may ask you to analyze data or hypotheses, while questions on literature passages will focus more on literary concepts like theme, mood, and characterization. The main goal of the Reading Test is to measure your ability to understand words in context as well as find and analyze evidence.

Writing and Language Test

The Writing and Language Test is 35 minutes long and consists of 44 questions, which are also multiple choice and based on passages. However, instead of asking you to analyze a passage, questions will require you to proofread and edit the passage. This means you will have to correct grammar and word choice, as well as make larger changes to the organization or content of the passage.

Math Test

You will have a total of 80 minutes to complete the Math Test, which, as mentioned earlier, is divided into two sections: No Calculator (Section 3; 25 minutes, 20 questions) and Calculator (Section 4; 55 minutes, 38 questions). Most questions are multiple choice, but there are also a handful of what College Board calls Student-produced Response questions, which are also known as Grid-Ins. For Grid-In questions, instead of choosing from four answer choices, you'll have to work through a question and then enter your answer on your answer sheet by bubbling in the appropriate numbers. We'll discuss this in more detail in Chapter 20. Exactly 13 of the 58 math questions will be Grid-Ins.

The Math Test covers four main content areas, which the College Board has named the following: (1) Heart of Algebra, (2) Problem Solving and Data Analysis, (3) Passport to Advanced Math, and (4) Additional Topics in Math. This last section includes complex numbers and topics in geometry and trigonometry. Part IV of this book covers each of these content areas in depth.

The Optional Essay is No Longer an Option

After June 2021, College Board stopped offering students the option to take the SAT essay. This means that no colleges require it (since it's not an option for most students), so ignore any outdated information you might see about the SAT essay. The only students who will take the essay are those who are required to do so during a School Day Administration—that is, when your school or district has you take the SAT during a school day rather than over the weekend. If you will be taking a School Day SAT, find out from your school whether the essay portion will be included. If it will be, you can find some sample prompts online in your free Student Tools.



Unlock Premium Content!

Enhance your test prep with your Premium online resources, like helpful video tutorials and week-by-week study guides. Plus, use the "SAT Insider" to help navigate college admissions, applications, financial aid, and more.

Scoring on the SAT

The SAT is scored on a scale of 400 to 1600, which is a combination of your scores for Evidence-Based Reading and Writing (a combination of your Reading and Writing and Language scores, scored from 200 to 800) and Math (also scored from 200 to 800). The exam also has a detailed scoring system that includes cross-test scores and subscores based on your performance on each of the three tests. Your score report for the SAT will feature scores for each of the following:

- **Total Score (1):** The sum of the two section scores (Evidence-Based Reading and Writing, Math), ranging from 400 to 1600
- **Section Scores (2):** Evidence-Based Reading and Writing, ranging from 200 to 800; Math, also ranging from 200 to 800
- **Test Scores (3):** Reading Test, Writing and Language Test, Math Test, each of which is scored on a scale from 10 to 40
- **Cross-Test Scores (2):** Each is scored on a scale from 10 to 40 and based on selected questions from the three tests (Reading, Writing and Language, Math):
 1. Analysis in History/Social Studies
 2. Analysis in Science
- **Subscores (7):** Each of the following receives a score from 1 to 15:
 1. Command of Evidence (Reading; Writing and Language)
 2. Words in Context (Reading; Writing and Language)
 3. Expression of Ideas (Writing and Language)
 4. Standard English Conventions (Writing and Language)
 5. Heart of Algebra (Math)
 6. Problem Solving and Data Analysis (Math)
 7. Passport to Advanced Math (Math)

This scoring structure was designed to help provide a more holistic profile of students' skills and knowledge, as well as readiness for college. However, colleges aren't likely to look at the cross-test scores or the subscores.

Your Evidence-Based Reading and Writing score is determined in the following way:

$$\text{Verbal Scaled Score out of 800} = \left(\begin{array}{l} \text{Writing and Language test score out of 40} \\ + \text{Reading test score out of 40} \end{array} \right) \times 10$$

Since the two verbal sections are tied together, an improvement in either area will increase your Evidence-Based Reading and Writing score. The Math score is a bit less complicated, with a direct relationship between the Math Test Score and the number of questions answered correctly in the Math sections. The scale may change slightly from test to test, but this chart will give you a good idea of the approximate score you would get with each number of raw points.



Math Scale Score	
Scaled Score	Raw Points
350	12
400	16
450	20
500	26
550	32
600	39
650	44
700	50
750	54
800	58

When Is the SAT Given?

The SAT schedule for the school year is posted on the College Board website at www.collegeboard.org. There are two ways to sign up for the test. You can either sign up online by going to www.collegeboard.org and clicking on the SAT link, or sign up through the mail with an SAT registration booklet, which may be available at your school guidance counselor's office.

Try to sign up for the SAT as soon as you know when you want to take the test. If you wait until the last minute to sign up, there may not be any open spots in the testing centers.

If you require any special accommodations while taking the test (including, but not limited to, extra time or assistance), www.collegeboard.org has information about applying for those accommodations. Make sure to apply early; we recommend applying six months before you plan to take the test.

Stay on Schedule

Although you may take the SAT any time starting freshman year, most students take it for the first time in the spring of their junior year and may retake it in the fall of their senior year. Sit down and plan a schedule.

HOW TO BEGIN

After this chapter, you will find Practice Test 1 and its answers and explanations. This will act as your “diagnostic” test. We recommend that you take this test before going any further in order to realistically determine:

- your starting score right now
- which question types you’re ready for and which you might need to practice
- which content topics you are familiar with and which you will want to carefully review

Once you have nailed down your strengths and weaknesses based on this exam, you can focus your test preparation, build a study plan, and be efficient with your time. Use the following steps to make the most of this first “diagnostic” test.

1. **Take a practice test.** To “diagnose” your strengths and weaknesses, take Practice Test 1 starting on [this page](#) of this book. Be sure to do so in one sitting, following the instructions that appear with each section of the test.
2. **Score your test online.** Once you register your book, you can enter the answers to your practice tests in your online tools. When you do so, you will get a score report that details your performance on a variety of question types. You will also get an approximate score, though the scale for the SAT does change a bit from test to test.
3. **Take stock and make a plan.** With the insights you’ll gain from your score report, decide where to start with the content of this book. You may choose to use some parts of this book over others, or you may work through the entire book. The ways in which you use this book will depend on your needs and how much time you have.

Scoring Your Practice Tests

At the end of each Answers and Explanations chapter, we’ve provided a table and step-by-step equation to help you score your practice test and determine how your performance would translate to the actual SAT. You can also generate a detailed online score report in your Student Tools. Follow the steps on the “Get More (Free) Content” spread at the front of this book to access this awesome feature.

Now let’s look at how to make this determination.

When you enter your practice test answers online, you will get a score report that starts with your Total score, followed by a breakdown of the scores for each section of the test. You will also be able to see the various Cross-Section Scores and Subscores. Below that will be a breakdown of the questions by test section, with a tab for each one. Each question will be represented by a box with a mark to indicate if it was Correct, Incorrect, or Blank. Clicking on the box for a question brings up the explanation for it, which is also found in this book. Additionally, you can see the question category listed as “Concept Tested.”

To see a section breakdown by concept, you can click the “View by Category” button. Use this view to determine the following:

- question types you are good at, to make sure you can find and correctly answer questions in these categories every time
- question types that have several questions in them but that you struggled with a bit, so you can work to improve your accuracy on these important questions
- question types that were either very difficult for you or had only one or two questions in them. Practice these question types only after you’ve mastered the others.

After you determine these things for Reading, you can do the same for Writing and Language and for Math by clicking on the respective tabs for each. There is also a guide at the bottom of the score report that indicates your Areas of Strength and Areas of Focus. Though this may point you to some areas to work on, make sure to verify that a given topic is worth the time it would take to master. For example, if there was only one Math question about Complex Numbers and you got it wrong, that may show up as an Areas of Focus. However, if each test has only 1 Complex Numbers question at most, studying that concept is not the best use of your time.

Your analysis of your performance on Practice Test 1 will affect how you engage with **Part II** (How to Crack the Reading Test), **Part III** (How to Crack the Writing and Language Test), and **Part IV** (How to Crack the Math Test). Each of these parts is designed to give a comprehensive review of the content tested on the SAT, including the level of detail you need to know and how the content is tested. At the end of each of these chapters, you’ll have the opportunity to assess your mastery of the content covered through targeted drills that reflect the types of questions and level of difficulty you’ll see on the actual exam. Answers and explanations can be found at the end of each chapter, so use those explanations to continue assessing your skills.

After you have mastered a few key concepts and strategies, take another practice test from **Part VI** and analyze it the same way to see where you’ve improved and where you have more work to do. Continue alternating working through the chapters of this book and taking practice tests until you feel fully prepared to conquer the SAT.



Get More Online

Want even more practice? Be sure to register your book to gain access to your Student Tools, which contain a ton of Premium content to help boost your test prep, including five additional full-length practice tests, along with answers and explanations.

A FINAL THOUGHT BEFORE YOU BEGIN

The SAT does not measure intelligence, nor does it predict your ultimate success or failure as a human being. No matter how high or how low you score on this test initially, and no matter how much you may increase your score through preparation, you should never consider the score you receive on this or any other test a final judgment of your abilities.

Chapter 2

Practice Test 1

[Click here](#) to download a PDF of Practice Test 1.

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

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).

Questions 1–10 are based on the following passage.

This passage is excerpted from George Gissing, *New Grub Street*. Originally published in 1891. Reardon was a newly successful author and had married, but soon found himself unable to write. Following a conversation with his wife, he takes a walk and thinks about the time just before his wedding.

And the words sang about him, filled the air with a mad pulsing of intolerable joy, made him desire to fling himself in passionate humility at her feet, to weep hot
Line tears, to cry to her in insane worship. He thought her
5 beautiful beyond anything his heart had imagined; her warm gold hair was the rapture of his eyes and of his reverent hand. Though slenderly fashioned, she was so gloriously strong. 'Not a day of illness in her life,' said Mrs. Yule, and one could readily believe it.

10 She spoke with such a sweet decision. Her 'I love you!' was a bond with eternity. In the simplest as in the greatest things she saw his wish and acted frankly upon it. No pretty petulance, no affectation of silly-sweet languishing, none of the weaknesses of woman. And
15 so exquisitely fresh in her twenty years of maidenhood, with bright young eyes that seemed to bid defiance to all the years to come.

He went about like one dazzled with excessive light. He talked as he had never talked before, recklessly,

20 exultantly, insolently—in the nobler sense. He made
friends on every hand; he welcomed all the world to
his bosom; he felt the benevolence of a god.

‘I love you!’ It breathed like music at his ears when
he fell asleep in weariness of joy; it awakened him on
25 the morrow as with a glorious ringing summons to
renewed life. Delay? Why should there be delay? Amy
wished nothing but to become his wife. Idle to think
of his doing any more work until he sat down in the
home of which she was mistress. His brain burned with
30 visions of the books he would henceforth write, but his
hand was incapable of anything but a love-letter. And
what letters! Reardon never published anything equal
to those. ‘I have received your poem,’ Amy replied
to one of them. And she was right; not a letter, but a
35 poem he had sent her, with every word on fire.

The hours of talk! It enraptured him to find
how much she had read, and with what clearness
of understanding. Latin and Greek, no. Ah! but she
should learn them both, that there might be nothing

40 wanting in the communion between his thought and
hers. For he loved the old writers with all his heart;
they had been such strength to him in his days of
misery.

They would go together to the charmed lands of
45 the South. No, not now for their marriage holiday—
Amy said that would be an imprudent expense; but as
soon as he had got a good price for a book. Will not
the publishers be kind? If they knew what happiness
lurked in embryo within their foolish cheque-books!

50 He woke of a sudden in the early hours of one
morning, a week before the wedding-day. You know
that kind of awaking, so complete in an instant, caused
by the pressure of some troublesome thought upon
the dreaming brain. ‘Suppose I should not succeed
55 henceforth? Suppose I could never get more than this
poor hundred pounds for one of the long books which
cost me so much labour? I shall perhaps have children
to support; and Amy—how would Amy bear poverty?’

He knew what poverty means. The chilling of
60 brain and heart, the unnerving of the hands, the slow
gathering about one of fear and shame and impotent
wrath, the dread feeling of helplessness, of the world’s
base indifference. Poverty! Poverty!

[Click here](#) to view this content as text.

1. Which choice best describes a major theme of the passage?

- A) The internal battle between true love and self-doubt
- B) The unequivocal joy of marital bliss
- C) The destructive power of encroaching poverty
- D) The fear of never reaching one’s ultimate potential

2. According to the narrator, when the woman he loved learned of his feelings for her,

she

- A) pledged her undying affection in return.
- B) dedicated herself to her maidenhood.
- C) reconsidered her prior refusal of his advances.
- D) wrote her own book of poetry.

3. Which choice provides the best evidence for the answer to the previous question?

- A) Lines 7–8 (“Though...strong”)
- B) Lines 10–11 (“She spoke...eternity”)
- C) Lines 26–27 (“Amy wished...wife”)
- D) Lines 33–35 (“Amy replied...fire”)

4. Which statement best describes a technique used to represent Amy’s desire to marry the narrator?

- A) The narrator describes in detail her youthful enthusiasm as a major motivating factor.
- B) The narrator asks a hypothetical question that is immediately refuted.
- C) The narrator applauds her decision as a reflection of an inner strength that is unparalleled.
- D) The narrator stresses her sincerity as proof of a dedication fostered by her maidenhood.

5. As compared with his love letters, the narrator’s book writing is portrayed as being

- A) agreeable.
- B) stalled.
- C) fiery.
- D) imaginative.

6. In describing the relationship between Amy and the narrator, the narrator highlights a distinction between Amy’s

- A) desire for marriage and his readiness.
- B) beauty and his common appeal.
- C) conventional education and his love of language.
- D) distaste for spending and his ability to write.

7. Which choice provides the best evidence for the answer to the previous question?

- A) Lines 4–7 (“He thought...hand”)
- B) Lines 11–13 (“In the...it”)
- C) Lines 38–41 (“Latin...hers”)
- D) Lines 45–47 (“No, not...book”)

8. As used in line 40, “wanting” most nearly means

- A) lacking.
- B) requesting.
- C) pleasing.
- D) desiring.

9. The narrator uses the phrase “what happiness lurked in embryo” (lines 48–49) to present the publishers as

- A) kind.
- B) wealthy.
- C) influential.
- D) foolish.

10. What function does the last paragraph (lines 59–63) serve in the passage as a whole?

- A) It expands upon the overall theme of the narrator’s never-ending love for Amy.
- B) It lists the long-term effects that poverty could have on the narrator’s relationship.
- C) It provides evidence that the narrator cannot support his wife by revealing his hysteria.
- D) It intensifies the narrator’s growing concerns about his ability to support his marriage.

Questions 11–21 are based on the following passage and supplementary material.

This passage is excerpted from Dan Glass, “What Happens if GPS Fails?” ©2016 by The Atlantic.

Despite its name, the Global Positioning System is not about maps; it’s about time. Each satellite in the constellation (24 are needed, plus the U.S. has
Line several spares) has multiple atomic clocks on board,
5 synchronized with each other and to Coordinated Universal Time (UTC)—the time standard used across the world—down to the nanosecond. The satellites continually broadcast their time and position information down to Earth, where GPS receivers in
10 equipment from iPhones to automated tractors acquire signals and use the minuscule differences in their arrival time to determine an exact position.

While GPS was initially conceived to aid navigation, globally synchronized time is now a much
15 more critical function of the system. Telecom networks rely on GPS clocks to keep cell towers synchronized so calls can be passed between them. Many electrical power grids use the clocks in equipment that fine-tunes current flow in overloaded networks. The finance

20 sector uses GPS-derived timing systems to timestamp
ATM, credit card, and high-speed market transactions.
Computer network synchronization, digital television
and radio, Doppler radar weather reporting, seismic
monitoring, even multi-camera sequencing for film
25 production—GPS clocks have a hand in all.

What if all these flying clock radios were wiped
out, and everything on the ground started blinking
12:00? According to Mike Lombardi, a meteorologist
at the National Institute for Standards and Technology,
30 “Nobody knows exactly what would happen.” Since so
many of these technologies were designed specifically
with GPS in mind, the unsettling truth, he says, is
“there’s no backup.”

The bulk of a more promising, comprehensive
35 backup system already exists, right here on the ground.
After the sextant but before GPS, navigators around
the world used Long Range Aids to Navigation, or
“LORAN,” a terrestrial system of transmitters and
receiving equipment first developed during WWII.

40 By the mid-1990s, Loran “tower chains” provided coverage for North America, Europe, and other regions in the Northern Hemisphere. Its use declined in favor of the much finer accuracy of GPS after it became available for civil use in 1995, but the U.S.

45 Coast Guard continued working on an improved system using the existing infrastructure. If adopted, “Enhanced” LORAN, or eLoran, could provide positioning accuracy comparable to GPS. Broadcast at hundreds of thousands of watts, the signal is virtually

50 un-jammable, and unlike GPS, can even be received indoors, underwater, and in urban or natural canyons. It also turns out that eLoran can provide a UTC time signal with sub-microsecond time resolution across a large geographical area.

55 The technology is available—the Coast Guard demonstrated a working prototype last year—so why isn’t America using it? John Garamendi, a California congressman, asked this question at a July 2015 congressional hearing on the Federal

60 Radionavigation Plan, the nation's primary planning
document for position, navigation, and timing (PNT).
"There are two kinds of time," he opened, "real time ...
and then federal time, which seems to be the forever
time. The eLoran system was identified as a backup 15
65 years ago, and here we are, federal time, not yet done."

Why is the sense of urgency among decision-
makers so out of sync? Could some of it be similar
to why people delay backing up their computers
even though they've been telling themselves to for
70 weeks? How do we decide, when presented a risk with
unknown odds, when it's time to sacrifice time and
resources to prevent it?

Now is a critically important time to answer that
question, as the world has actually been given odds on
75 another, even more catastrophic risk than GPS failure:
destruction of the electrical power infrastructure itself.
On July 23, 2012, a billion-ton cloud of electrified gases
blasted off the far side of the sun at over six million
miles per hour. According to professor Daniel Baker
80 at University of Colorado, this coronal mass ejection
(CME) "was in all respects at least as strong as the
1859 Carrington Event," referring to the strongest
solar storm ever recorded, which set fire to telegraph
stations and caused auroras down to Cuba. As was
85 widely reported two years ago, if the 2012 CME had
occurred one week later, it would have hit Earth.

[Click here](#) to view this content as text.