

All About the ACT & SAT: Exam Design, Test Prep, Trends Bronx High School of Science

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Alan Sheptin - About Me

- BA, University of Pennsylvania
- MBA, Fordham University
- Member, NACAC; Associate Member, IECA
- Established Sheptin Tutoring Group in 2007
 - www.sheptin.com
 - Worked with over 1,000 students prepping them for the SAT and ACT with *proven results*
 - Students routinely attend top 50 colleges and universities
 - Services available throughout New York metropolitan region
 - In demand speaker at local libraries and religious organizations

What You'll Learn Tonight

- **ACT 101:**
 - What is the ACT?
 - What does it test?
 - How does scoring work?
 - What are current trends in the ACT universe?
- **What is the the new SAT all about?**
 - What was it like to take the test?
- **How should you create a testing plan?**

Top Testing Myths

- *"East and West Coast colleges prefer the SAT to the ACT..."*
- *"The ACT is easier than the SAT"*
- *"It's not possible to prepare for the ACT & SAT"*
- *"You cannot cram for the ACT & SAT"*
- *"There are 'easy' and 'hard' ACT & SAT exams"*

ACT 101:

*What you need to know about
the ACT*

What is the ACT?

- *It is a college entrance examination consisting of four subtests that focus on:*
 - *Written English*
 - *Mathematics*
 - *Reading*
 - *Scientific Reasoning*
 - *And an optional essay*
- *It is administered by the American College Testing Program in Iowa City, Iowa*

How is the ACT Scored?

- *Each of the four subtests gets a score ranging from 1 to 36*
- *Four scores are averaged, then rounded to the nearest whole number, to obtain an overall score*
- *Example:*
 - *Moira's recent exam scores were as follows*
 - *English – 29; Math – 33; Reading – 31; Science – 29*
 - *The average of the four scores is 30.5 but the reported score would be 31*

When is the ACT Offered?

- ***Six exam administrations***

<i>September</i>	<i>February *</i>
<i>October</i>	<i>April</i>
<i>December</i>	<i>June</i>
<i>* Not offered in New York State</i>	

- ***Local Test Centers:***

- *Bronx: Horace Mann School, Fieldston School*
- *Brooklyn: Brooklyn Tech, James Madison*
- *Queens/LI: Forest Hills, John Bowne, Great Neck North/South*
- *Manhattan: NYU, Eleanor Roosevelt*
- *Westchester: New Rochelle, Eastchester*

How is the Exam Designed?

- *Each subtest is a multiple choice exam*
 - *Four choices per question*
 - *Mathematics exam has five choices per question*
- *Answer every question*
 - *There is no guessing penalty*
- *Calculator permitted on Mathematics exam*

First Subtest: English

- *45 minutes*
- *75 questions:*
 - *Five paragraphs, each with 15 questions*
- *Tests all of the following:*
 - *Grammar and punctuation*
 - *Word choice*
 - *Organization*
 - *Effectiveness of opening, transitional, and closing sentences*

English Must Knows

- *Most common concepts tested include:*
 - *Use of commas, semi-colons*
 - *Fragment and run-on sentences*
 - *Misplaced modifiers*
 - *Subject-verb agreement*
 - *Tense consistency*
 - *Possessives*

Second Subtest: Mathematics

- *60 minutes*
- *60 questions*
- *Calculator permitted*
 - *TI-89 is not permitted*
- *Tests all of the following:*
 - *Pre-Algebra and Algebra I: 40%*
 - *Coordinate and Plane Geometry: 40%*
 - *Algebra II: 15%*
 - *Trigonometry: 5%*

Math Must Knows

- *Questions arranged in order of difficulty*
- *Questions are generally straightforward*
 - *About 10% of the questions require reasoning skills*
- *No formulas provided*
 - *In advanced trigonometry and complicated volume and surface area questions, formulas given*
- *Comprehensive “tour” of a classic four-year Mathematics curriculum*

Recent Exam Trends

- *Questions have become more challenging*
- *Increased emphasis on statistics*
- *Longer, more complicated questions*
 - *De-emphasis on pre-Algebra*
- *Curve has become a bit more lenient to compensate*

Third Subtest: Reading

- *35 minutes*
- *Four passages, always in the same order:*
 - *Prose Fiction*
 - *Social Sciences*
 - *Humanities*
 - *Natural Science*
- *10 questions per passage*
- *Each passage is between 700 – 900 words*

Reading Must Knows

- *Questions not arranged in order of difficulty*
- *Questions not arranged in order of the passage*
- *Students do not have to tackle the passages in the order provided*
 - *Read passages based on strength / interest*

Fourth Subtest: Science

- *35 minutes*
- *40 questions, split into six passages*
- *Basic math required but no calculator allowed*
- *Science Skills Tested*
 - *Earth and Space Science*
 - *Biological Science*
 - *Physical Science (Chemistry and Physics)*
- *Three different passage types*
 - *Data Representation (Interpret graphs, charts, diagrams)*
 - *Research Summary (Experiment design, execution, results)*
 - *Conflicting Viewpoints (Evidence-based reading)*

Science Must Knows

- *Passages are not arranged in any order*
- *Questions per section are arranged in order of difficulty*
- *Go directly to the questions; let them guide your student to the correct answer*
- *90% of the questions can be found in the data provided*
- *Only 10% of the questions require background knowledge*
- *Last passage tends to have complicated graphs or data*

Optional: Writing

- *40 minutes*
- *Consider three perspectives on a socially relevant topic*
- *Analyze and evaluate the perspectives*
- *State and develop your own perspective on the issue*
- *Explain the relationship between your perspective and those given with logical, cogent, persuasive examples*

Writing Must Knows

- *Two evaluators*
 - *1 – 6 score on four domains:*
 - *Ideas and Analysis*
 - *Development and Support*
 - *Organization*
 - *Language Use*
 - *Final score on a 1 – 36 scale*
- *ELA Score Created*
 - *Average of English, Reading, and Writing Tests*

Is the “Optional” Essay “Mandatory?”

- *Some schools require it*
 - *Examples: Harvard, Yale, Penn, Princeton, Michigan, Binghamton*
- *Others recommend it*
 - *Examples: RPI, Gettysburg, Haverford, Amherst*
- *What should YOUR STUDENT do?*
 - *Suggestion: Take it*
 - *Ask the colleges as you do your research*

ACT Trends:

What's going on in the ACT universe today?

Current Events in the ACT Universe

- **2007:** *Wake Forest University becomes the last university in the U.S. to accept the ACT*
- **2012:** *More college-bound high school students take the ACT than the SAT*
- **2015:** *ACT redesigns its optional essay and score*
- **2016:** *The College Board introduces a dramatically redesigned SAT*

Schools are Superscoring the ACT

- *The process by which colleges consider your highest section scores across all the ACT sessions a student undertook*
- *Example:*
 - *Moirra's decided to take the ACT a second time*
 - *Second Time: English – 32; Math – 31; Reading – 30; Science – 31*
 - *First Time: English – 29; Math – 33; Reading – 31; Science – 29*
 - *Superscore: English – 32; Math – 33; Reading – 31; Science – 31*
 - *Superscore: 32*
- *As you visit schools, ask about this!*

The ACT has become increasingly popular

- *A sampling of very popular highly selective universities shows a sizable increase in ACT use for incoming freshman classes over the past five years:*

University	% Increase	University	% Increase
Binghamton	40	NYU	94
Cornell	19	Princeton	15
Georgetown	675	Stanford	39
Harvard	39	Tulane	15
Lehigh	53	Yale	39

Prepping for the ACT:

Resources and What to Expect

Ways to Prepare (in cost order)

- *Free online resources (act.org)*
 - *Old practice exams*
 - *ACT Question of the Day*
- *Exam prep books (available at amazon.com)*
 - *The Real ACT Prep Guide*
 - *5 Pound Book of ACT Practice Problems by Manhattan Prep*
- *Group tutoring*
 - *Usually 15 to 24 hours of content and strategy review*
 - *Good courses will include graded homework and in-class exams*
- *Private tutoring*

Creating an ACT Study Plan

■ *Sophomores*

- *Take a diagnostic ACT exam in May or June*
- *Begin preparation summer after 10th grade or mid-junior year (either October or January)*

■ *Juniors*

- *Have a ten-week lead time between prep and exam*
 - *Begin preparation in April for the June exam*
- *Summer before 12th grade is an ideal time to do last ditch rigorous preparation*
 - *Must be finished by the October exam date*

The New SAT:

What You Need to Know NOW

Overview: New SAT versus ACT

SAT	ACT
<p>Total work time: 3 hours and 50 minutes Testing always occurs in this order:</p> <ul style="list-style-type: none"> • Reading: 65 minutes • Writing & Language: 35 minutes • Math – No Calculator: 25 minutes • Math – Calculator: 55 minutes • Optional Essay: 50 minutes 	<p>Total work time: 3 hours and 35 minutes Testing always occurs in this order:</p> <ul style="list-style-type: none"> • English: 45 minutes • Mathematics: 60 minutes • Reading: 35 minutes • Science: 35 minutes • Optional Essay: 40 minutes
<p>Scores range from 200-800 on each part. English and Language Arts (ELA) combined into a single score ranging from 200 – 800. Mathematics score also ranges from 200 – 800. Total score: 400 – 1600.</p>	<p>Scores range from 1-36 per section. Scores from each part are averaged into a single composite score. Best possible composite score is 36.</p>
<p>Reading: Five passages with 10 – 12 questions per passage. Passages include excerpts from classical literature and primary source historical documents. Some questions will require students to demonstrate the location of the answer in the passage (evidence-based reading).</p>	<p>Reading: Four passages, 10 questions per passage. Some questions show line numbers to help you find hints in the passage; however, questions are not in order of the presentation of the passage.</p>
<p>Math: Accounts for 1/2 of your overall score. 90% of questions from Algebra I and II; de-emphasis on Geometry.</p>	<p>Math: Accounts for 1/4 of your overall score. Topics range from pre-Algebra through rudiments of Algebra II and Trigonometry.</p>
<p>Science: No science section; however, one reading passage will be based in scientific literature, with charts and graphs to analyze.</p>	<p>Science: Scientific reasoning section requires students to read and interpret graphs, charts and data, make conclusions and predictions, and discern the difference between hypotheses.</p>
<p>Reporting: You have the option to decide which scores colleges see.</p>	<p>Reporting: You choose which ACT scores are reported to colleges.</p>

What's New

- *No guessing penalty*
- *Four choices per question*
- *Two scores, for a 1600 scale*
- *Sub-score reporting*
- *Minimal vocabulary memorization*
- *Reading in disciplines throughout the curriculum*
- *More comprehensive testing of Mathematics*
- *Optional – but longer – essay*

Basics of the New Test

Testing Time	3 hours (add 50 minutes for the optional essay)
Testing Components	<ul style="list-style-type: none">• Evidence-based reading and writing• Mathematics• Optional essay
Basic Exam Design	<ul style="list-style-type: none">• Context-based vocabulary• College-appropriate reading
Multiple Choice Format	<ul style="list-style-type: none">• Four choices (A – D)
Raw Score	<ul style="list-style-type: none">• No guessing penalty
Scaled Score	<ul style="list-style-type: none">• Two scores on a 200 – 800 point scale

Reading Redesign

Command of Evidence	<ul style="list-style-type: none">Students must show the correct answer and <i>where</i> they derived the answer in the text
Passage Types	<ul style="list-style-type: none">Four single passages, one paired500 – 750 words per passageUS and World Literature; History and Social Studies; Science
“Great Global Conversation”	<ul style="list-style-type: none">Documents taken from the great thinkers in civilization. Can include text from sources such as the Bill of Rights, Federalist Papers, I Have a Dream
Graphic Interpretation	<ul style="list-style-type: none">Reading will include a graphic (chart, graph)
Vocabulary	<ul style="list-style-type: none">Context-based but could have different shades of meaningWords used will be those students will see in everyday academic texts

Lots of Reading!

- ***Reading Test***
 - Five passages
 - Approximately 3300 words
- ***Writing and Language Test***
 - Four passages
 - Approximately 1700 words
- ***Essay***
 - One passage
 - 700 words
- ***Total of 5,700 words of reading***

Math Redesign

What is tested	<ul style="list-style-type: none">• The Heart of Algebra• Problem Solving and Data Analysis• Passport to Advanced Math• Additional Topics in Math• De-emphasis on Geometry
Time Allotted	<ul style="list-style-type: none">• Calculator: 38 questions, 55 minutes• No Calculator: 20 questions, 25 minutes
Calculator	<ul style="list-style-type: none">• No calculator section to test understanding and fluency in Math
Topics Breakdown	<ul style="list-style-type: none">• Heart of Algebra: 33%• Problem Solving: 29%• Advanced Math: 28%• Geometry/Trigonometry: 10%
Question Types	<ul style="list-style-type: none">• Four-Choice Multiple Choice: 45• Grid-in: 13

How is Math Tested?

- *De-emphasis on Geometry*
- *Additional emphasis on Algebra*
- *More focus on advanced Mathematics, including Algebra Two and Trigonometry*
- *Two math sections*
 - First math section: no calculator allowed
 - Second math section: calculator available for use

New: No Calculator Questions

- The mean number of students per classroom, y , at Central High School can be estimated using the equation $y = 0.8636x + 27.227$, where x represents the number of years since 2004, and $x \leq 10$. Which of the following statements is the best interpretation of 0.8636 in the context of this problem?
 - (A) The estimated mean number of students per classroom in 2004
 - (B) The estimated mean number of students per classroom in 2014
 - (C) The estimated yearly decrease in the mean number of students per classroom
 - (D) The estimated yearly increase in the mean number of students per classroom
- If $a^2 + 14a = 51$, and $a > 0$, what is the value of $a + 7$?
- Which of the following is equal to $(5 - 3i)(7 + 4i)$?
 - (A) 23 (B) 47 (C) $47 - i$ (D) $23 - i$

Sample Calculator Questions

- Aaron is staying at a hotel that charges \$99.95 per night plus tax for a room. A tax of 8% is applied to the room rate, and an additional onetime untaxed fee of \$5.00 is charged by the hotel. Which of the following represents Aaron's total charge, in dollars, for staying x nights?
(A) $(99.5 + .08x) + 5$
(B) $1.08(99.95x) + 5$
(C) $1.08(99.95x + 5)$
(D) $1.08(99.95 + 5)x$
- If $-9/5 < -3t + 1 < -7/4$, what is one possible value of $9t - 3$?
- At a primate reserve, the mean age of all the male primates is 15, and the mean age of all the female primates is 19. Which of the following must be true regarding the mean age, m , of all the primates in the reserve?
(A) $m = 17$ (B) $m > 15$ (C) $m < 19$ (D) $15 < m < 19$

New: Redesigned OPTIONAL Essay

- *Student required to read 750 word passage*
- *Explain how the author builds an argument to persuade an audience*
- *Support their explanation with evidence from the passage*
- *Three scores, each on a scale of 1 – 4:*
 - Understanding of the passage
 - Analysis of the passage
 - Writing

What Your Child Should Do *NOW*

- ***Read, read, read***
 - Classic books: College Board put out a list of recommended books
 - Science Times and Week in Review of New York Times
- ***Vocabulary, vocabulary, vocabulary***
 - The new test still tests words in context
 - The more words you know, the better
- ***Urge your English department to focus on grammar:***
 - Grammar usually acquired organically
 - Taught formally in world language classes
- ***Take the most challenging courses possible***
 - Take academic risks but don't overwhelm

What We Now Know

- *The concordance tables have been released*
 - *Available online*
- *How will colleges react to the new test?*
- *Is this SAT 2.0 an improved SAT?*
 - *It looks like a better, but harder, test*
 - *More college-like reading*
 - *Integrates passages and diagrams*
 - *Students will opt for ACT last year; increased interest in this new SAT*

Questions?

