

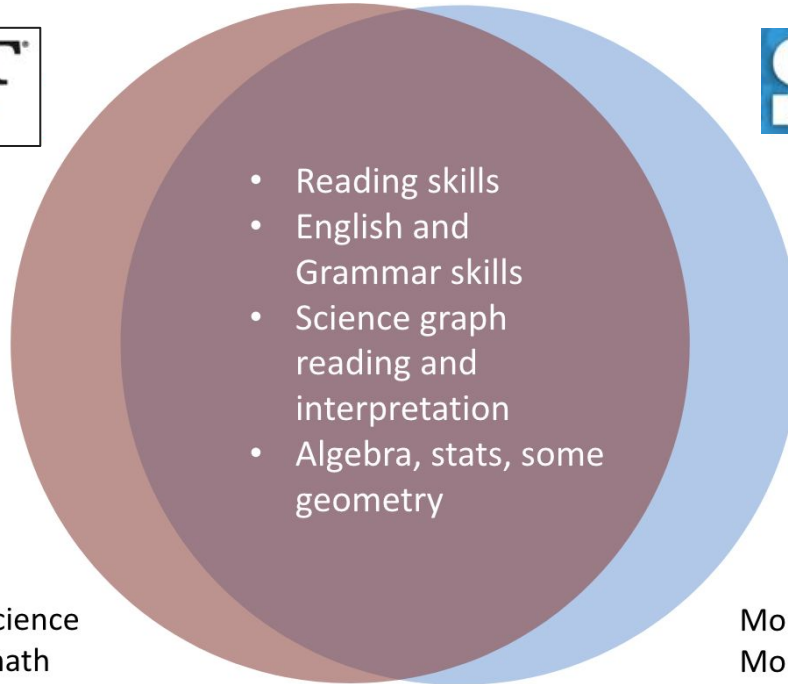
# Standardized Testing 2024

---

Jed Applerouth, PhD  
[info@applerouth.com](mailto:info@applerouth.com)

# The SAT and ACT have roughly 80% overlapping content

---



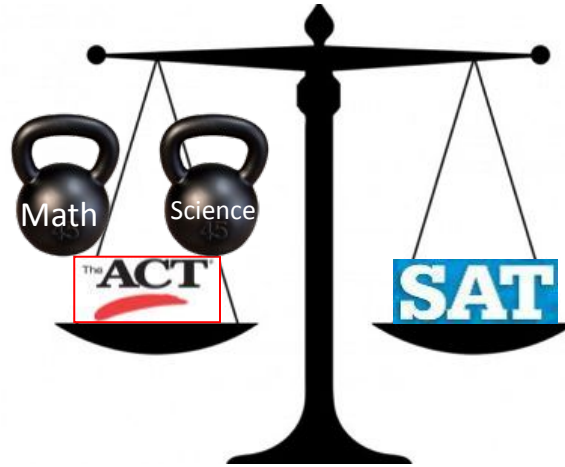
More advanced science  
More advanced math

More advanced reading  
More word problems

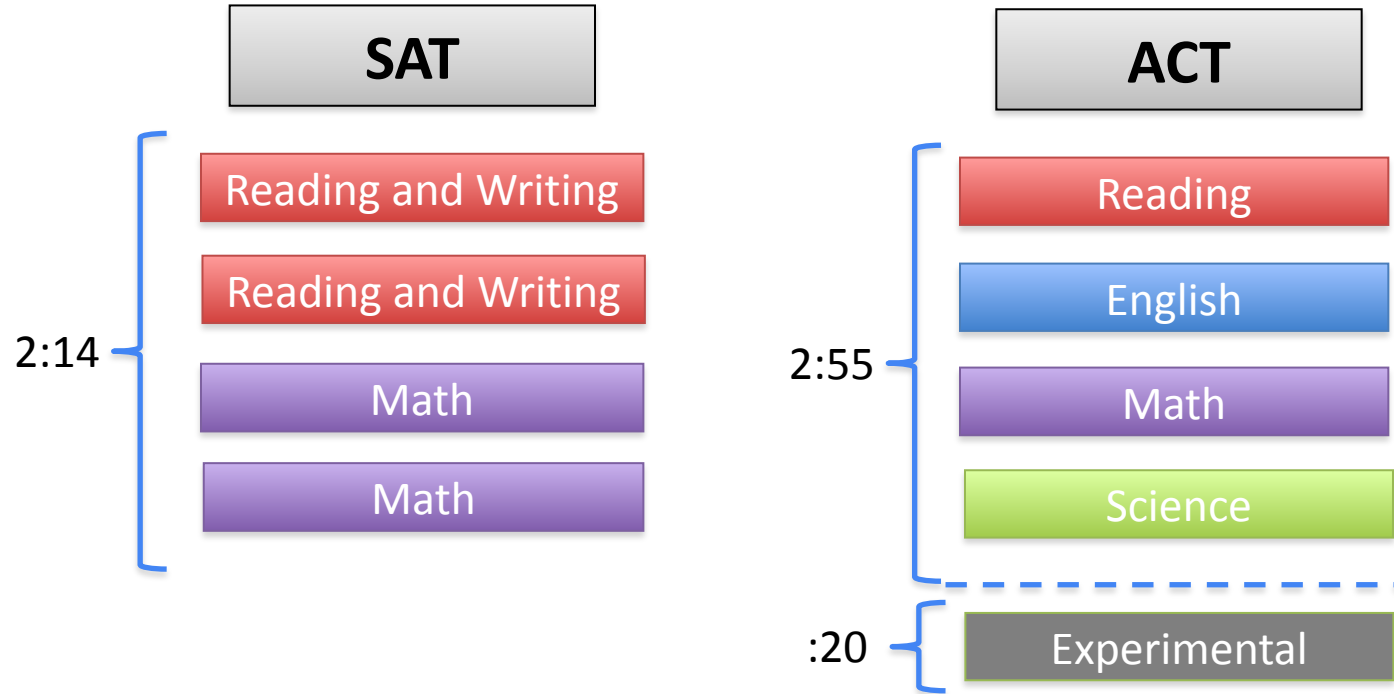
# The SAT is a more rigorous reading test than the ACT



# The ACT has more rigorous STEM content



# Structurally, the two tests are distinct



**Testing Time**

# The Digital SAT is a computer adaptive test

**Module 2**  
*Adaptive*

Easier  
Verbal

Harder  
Verbal

Easier  
Math

Harder  
Math

**Module 1**  
*Baseline*

Baseline  
Verbal

Array of easy to  
hard items.  
Raw score on  
baseline will  
determine the  
adaptive section

Baseline  
Math

# Much more time per question on the SAT



Question type	Seconds per question
dSAT verbal (R+W)	71.0
ACT verbal (R+E)	44.3
dSAT math	95.5
ACT math	60.0

Compared to the ACT, the digital SAT allows a whopping **60.5%** increase in the amount of time allotted per question on verbal and **59%** more time per question on math.

# The number of test items is much lower on the digital SAT

Verbal	Digital SAT	ACT
Time	32 module 1 <u>32 module 2</u> 64 Total	35 Reading <u>45 English</u> 80 Total
Questions	27 module 1 <u>27 module 2</u> <b>54 Total</b>	40 Reading <u>75 English</u> <b>115 Total</b>
Time/Ques.	71.0 sec.	44.3 sec.



# Comparing SAT and ACT math content

Test	Algebra and advanced math	Geometry and Trig	Arithmetic/ Data Analysis
ACT	46%	30%	24%
SAT	70%	15%	15%

SAT has more algebra and less geometry. Trigonometry is mostly an afterthought. Algebra dominates the SAT.

# ACT math is broader, integrating more challenging concepts

- Expanding use of matrices (e.g., multiplication)
- Adding more conic sections (e.g., working with ellipses and parabolic equations)
- Understanding the domain of a function
- Vertical and horizontal asymptotes
- Trig: Using Radians, Terminal Sides and Coterminal Angles (e.g.,  $30^\circ$ ,  $-330^\circ$  and  $390^\circ$ )
- Monomial factors
- Associative and commutative properties

# SAT verbal contains short form passages

- SAT has one short passage, under 150 words, and one question, and then you move on to a new passage.
- ACT has longer form passages, 10 questions apiece on Reading, 15 on English.

# Digital SAT Format

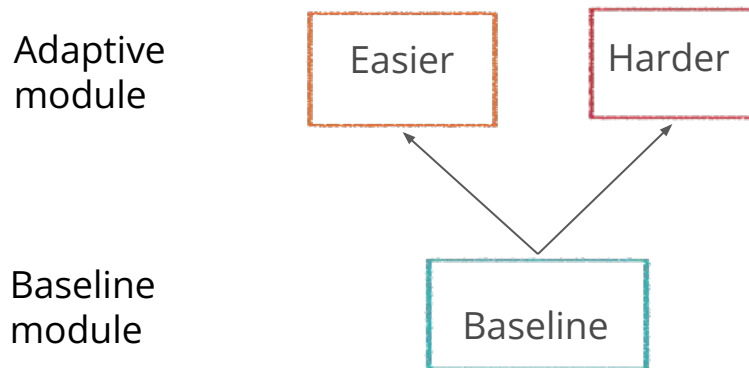
---

Component	Time Allotted (minutes)	Number of Questions/Tasks
Reading and Writing	64 (two 32-minute modules)	54
Math	70 (two 35-minute modules)	44
Total	134	98

Each section also includes 2 unmarked “pretest” questions that do not affect a student’s score

# What is Adaptive testing?

The Digital SAT is a **section** adaptive test. Depending on how you do on the first reading & writing module and the first math module, you will be routed to an upper or lower second module.



# Will I know if I got into the upper module?

---

- No, the SAT does not provide any feedback on which module you received.
- Different questions have different weights, so it's basically impossible to figure out how many questions you need to answer to get to the upper module.
- **The best advice is to just focus on the question in front of you.**

# How is the digital SAT administered?

---

- You will download the Bluebook app onto a personal or school issued laptop and bring the device in on test-day
- The application will block other apps from running
- You will enter a code at the test center, and a previously downloaded test will be activated and unlocked.

# Taking the SAT

---

- You will do all testing in the Bluebook app.
- The timer is built-in to the app.
- The proctor will be able to monitor your progress and help with any technical issues.
- You may bring a calculator and you will have scratch paper.
- If you have any testing accommodations, they will be integrated in Bluebook.



# The Reading & Writing Section

---

The R&W section is very predictable. The questions always appear in the same order in each module

## Craft and Structure

---

- Words in Context
- Text Structure and Purpose
- Cross Text Connections

## Information and Ideas

- Central Ideas and Details
- Command of Evidence
- Inference

## Standard English Conventions

- Boundaries
- Form, Structure, and Sense

## Expression of Ideas

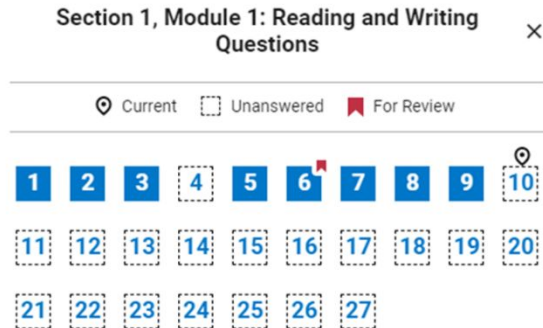
- Transitions
- Rhetorical Synthesis

# Very easy to keep track of progress and flagged items

Section 1, Module 1: Reading and Writing Questions ×

Current  Unanswered  For Review

1 2 3 4 5 6 7 8 9 10  
11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27



Go to Review Page

Question 10 of 27 ▾

The **Mark for Review** feature is particularly useful: the visual display of the entirety of a student's answer choices will help students navigate each section and quickly toggle between flagged or omitted items

# Words in Context Questions

---

Frustrated with the \_\_\_\_\_ of existing terms, author Nnedi Okorafor coined the term Africanfuturism to describe the genre of science fiction that is rooted in African experiences and perspectives and that focuses on “what is and can/will be” rather than “what could have been.”

Which choice completes the text with the most logical and precise word or phrase?

- A) variety
- B) limitations
- C) precision
- D) obscurity

# Inference Questions

---

Polyurethanes are commonplace, especially in seat cushions and furniture, durable in a variety of conditions, and versatile. However, they are difficult to recycle and can contain harmful chemicals. Srikanth Pilla and James Sternberg have been researching a bio-based alternative to polyurethane using lignin, a byproduct of the paper pulp industry. Initial tests have been positive and they have created a process to completely recycle their bio-based foams. As their research continues, Pilla and Sternberg will need to determine whether their bio-based foams \_\_\_\_\_

- Which choice most logically completes the text?
- A) will be appealing to consumers of furniture.
  - B) can be as varied and durable as polyurethane foams.
  - C) will be adopted by the paper pulp industry.
  - D) can create comfortable cushions for furniture.

# Math Section




---

- Both math modules go easy to hard.
- The questions will mostly be multiple choice with some student-produced responses peppered in
- The SAT allows you to use a Desmos calculator on every question.
- You will also have scratch paper and can bring your own calculator if you prefer.

# Sample Math Problem on Bluebook

Bluebook  
Section 2, Module 1: Math  
Directions ▾

31:59  
Hide

    
Calculator Reference More

1 Mark for Review ABC

Which expression is equivalent to  $x^2 + 5x - 50$ ?

(A)  $(x - 25)(x + 2)$

(B)  $(x - 10)(x + 5)$

(C)  $(x - 5)(x + 10)$

(D)  $(x - 2)(x + 25)$

Student Name

Question 1 of 22 ^

Back Next

If you need geometry formulas, this is where to find them. The Calculator will launch Desmos.

# Math: less of a reading burden

- Math items now have **fewer words per problem**, which is great for non-native speakers.
- On the digital SAT only 30% of math items will be in the context of science or social studies or real-world applications. The remaining 70% of items will be “pure” math problems.
- Basically, the goal is to make sure CB is testing MATH skills, not READING skills (unless the point of the problem is specifically parsing a complex word problem)

# Know how to use Desmos

---

Desmos can solve a lot of algebraic problems by finding the solution graphically

You can practice at [Desmos.com](https://www.desmos.com)

Let's try some questions and solve using Desmos



# Systems of Equations

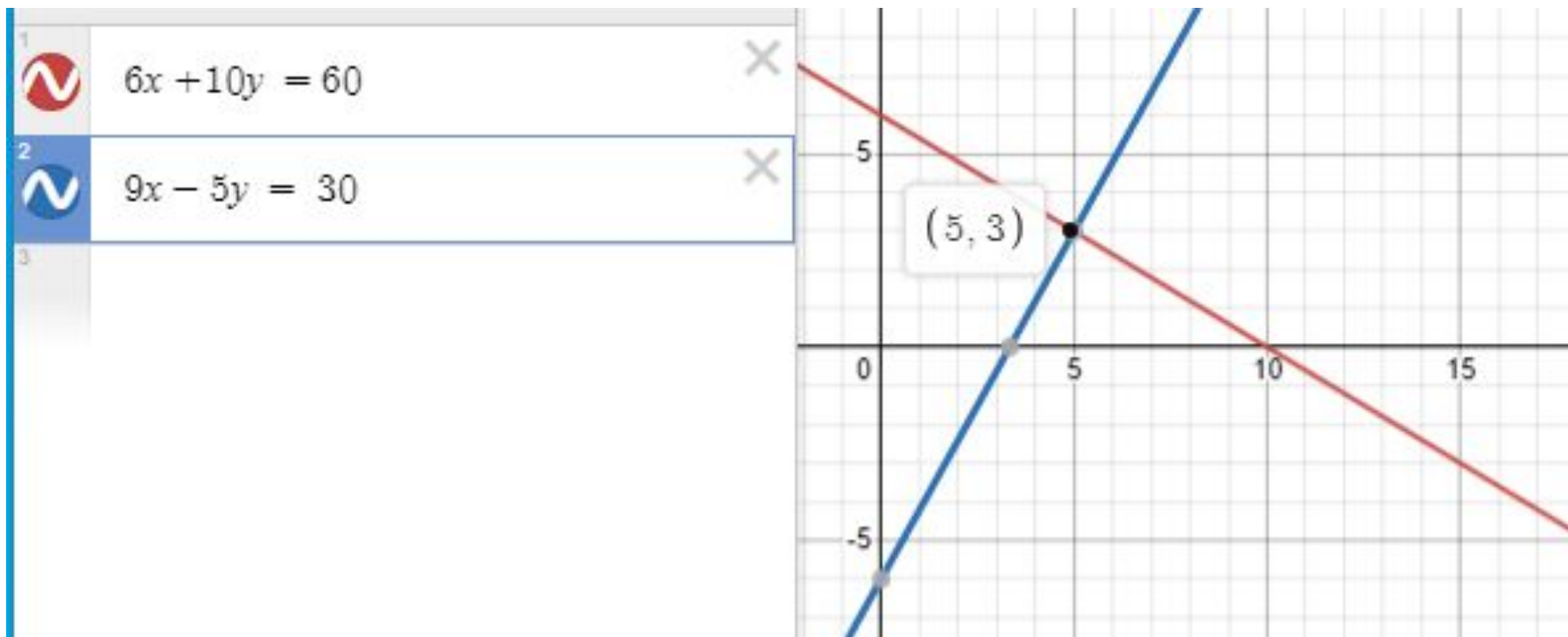
---

$$6x + 10y = 60$$

$$9x - 5y = 30$$

The solution to the given system of equations is  $(x,y)$ .  
What is the value of  $y$ ?

# Graph it on Desmos



# Quadratics

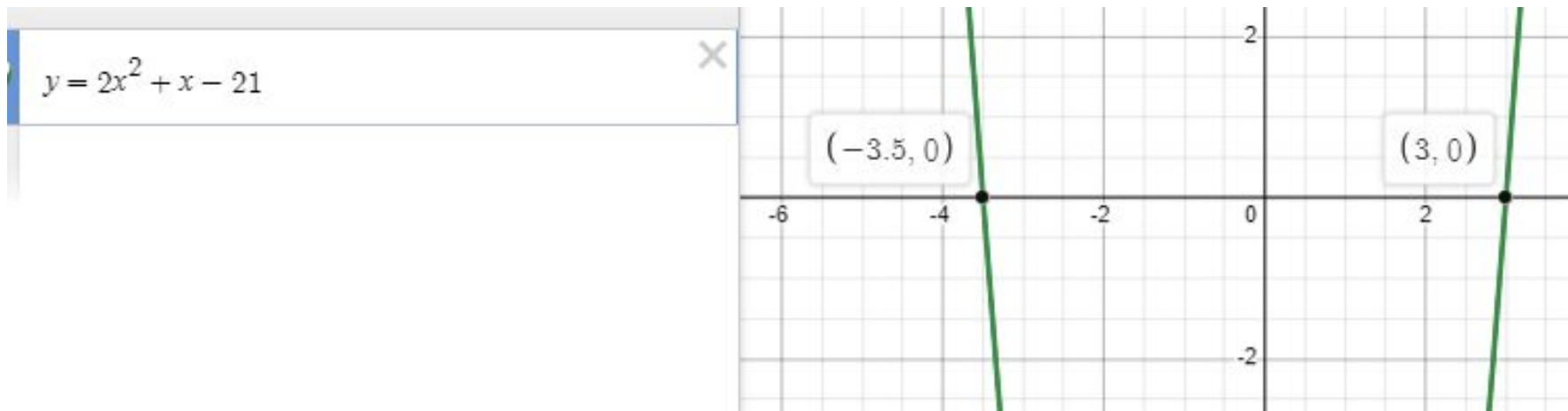
---

$$f(x) = 2x^2 + x - 21$$

The function above has zeros at points A and B on an (x,y) coordinate plane. What is the distance of line segment AB ?

- A) 3.5
- B) 6
- C) 6.5
- D) 9

# Graph it on Desmos



# Easier and Harder Adaptive Modules

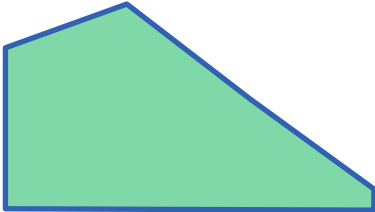
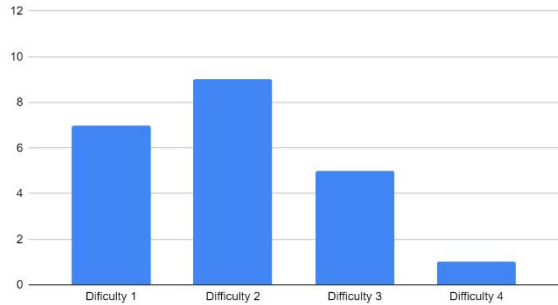
---

- There is a pronounced difference in average difficulty level between the easy and hard adaptive module. Students who find themselves on easy street for the adaptive section have most likely landed in the lower-level module.
- By our estimate, **16 out of 22 questions** on the easier module were Easy/Medium difficulty compared to only **5 out of 22 questions** on the harder module.

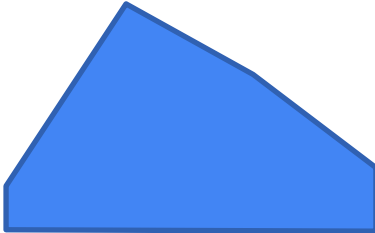
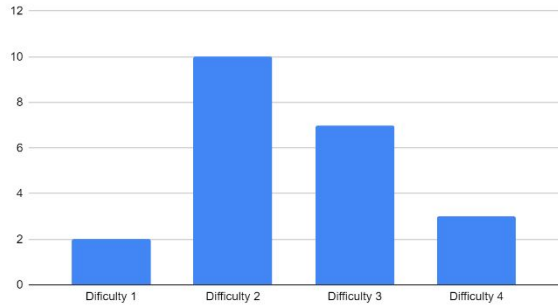
# Digital Math Test 1 difficulty analysis

---

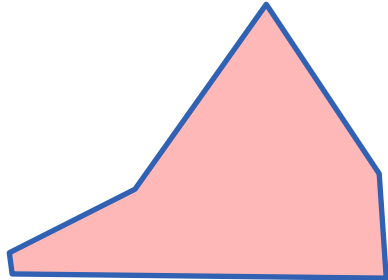
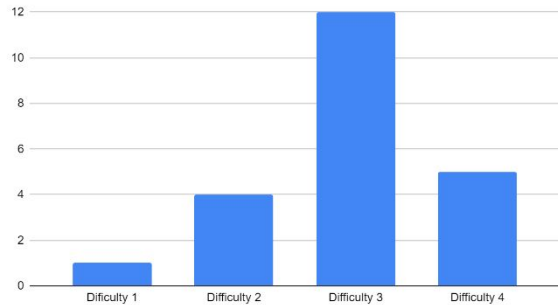
Module 2 Easy



Module 1



Module 2 Hard



# Item Response Scoring

- Different test items will have different weights.
- You'll never know which items count more, but that will affect the calculation of your score.

# Many, many test forms

- From the College Board: the digital SAT has “been designed and developed such that each student is administered a *highly comparable but unique* version of the test.”
- You will take a slightly different test than other students in your classroom.

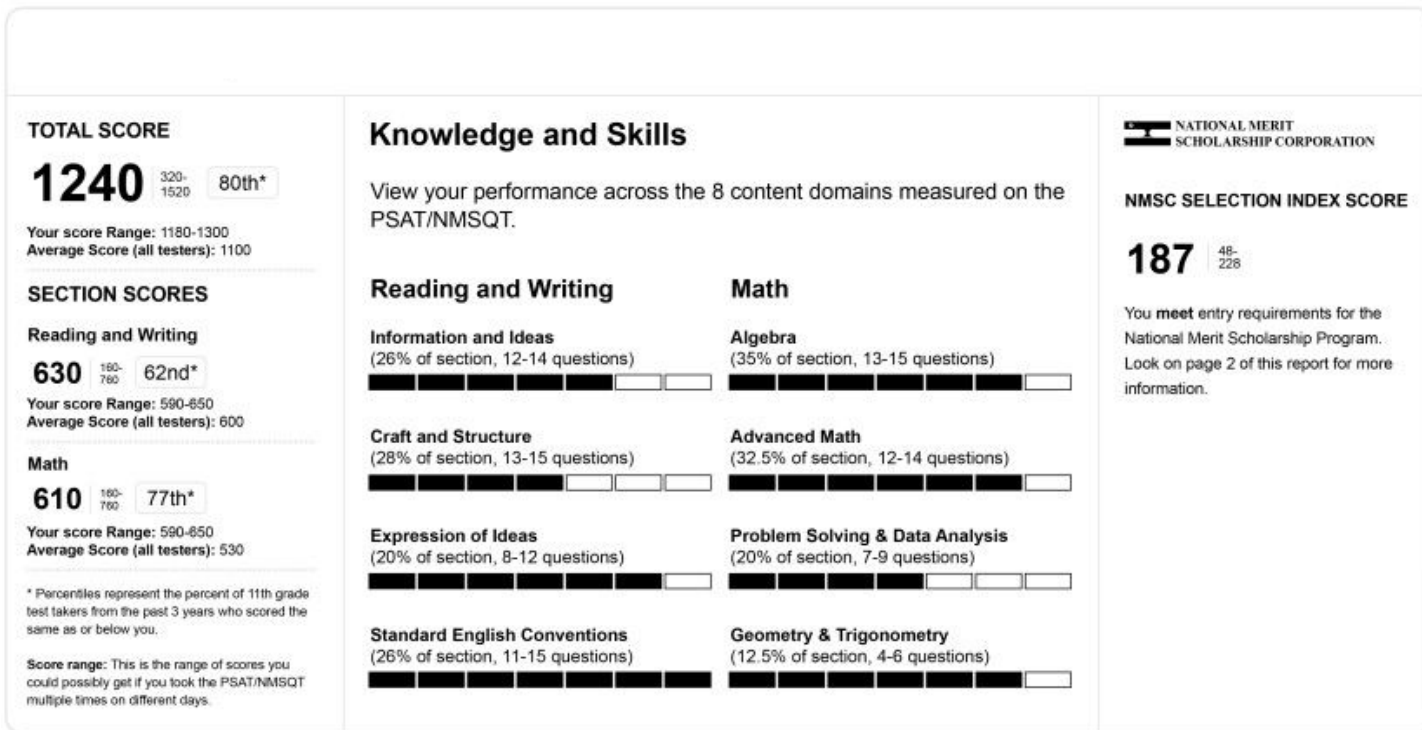


# How to Prepare for the digital SAT

---

- Take a practice test to learn the format and question types. There are four practice SATs on Bluebook.
- Focus on the question in front of you. **Don't worry** about the adaptive sections or the weight of each question. Conserve your mental energy.
- Get familiar with Desmos and consider using graphing to solve algebra.

# Score feedback is minimal



# Digital Accommodations

- The move towards digital assessment will make delivery of testing accommodations more seamless and integrated.
- Built in extra breaks and timing for students with accommodations.
- Reading accommodations include changing contrast, color, font size, and using text-to-speech capability.
- Math: access to Desmos calculator, integrates with other accommodations, screen readers and such

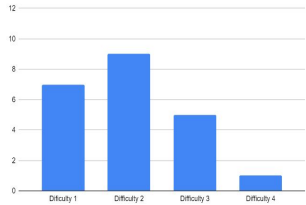
# International and PSAT and March DSAT Testing Feedback

- International Rollout, administrations were successful: few issues reported.
- Watch your pacing on the adaptive section- same items, different difficulty from baseline.
- Desmos fluency is very important
- March Module 2 Math section had more hard items than in any Blue Book Practice Test

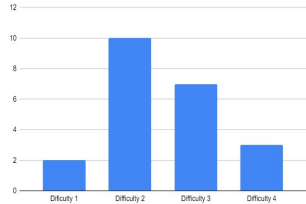
# Harder Math Module in March

---

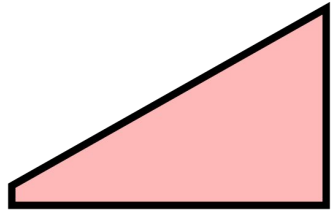
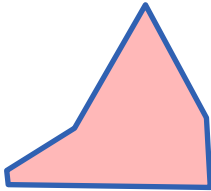
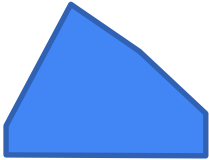
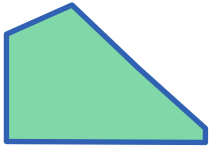
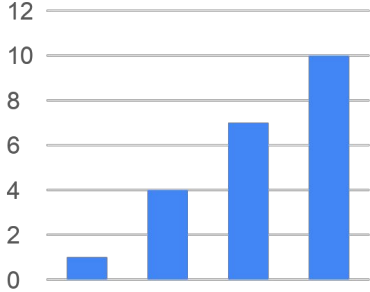
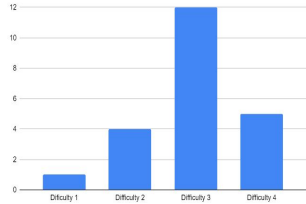
Module 2 Easy



Module 1



Module 2 Hard



# Students and administrators seem to prefer the new test

- The data from the dSAT pilot study suggests that administrators and students alike prefer the shorter, streamlined digital test.
- **Eighty percent of students** who had previously taken a paper-based SAT (sample size of 5,564 students) **reported a “better test-taking experience with the digital SAT.”**
- Administrators prefer the relative simplicity of administering the test without paper.

# Why students like it

- Shorter Test (less cognitive endurance)
- Shorter Passages (less working memory focus, less skimming and scanning texts)
- More time per question (less processing speed focus)
- Always have a calculator (less hand calculation)
- Faster Results (less stress from waiting!)

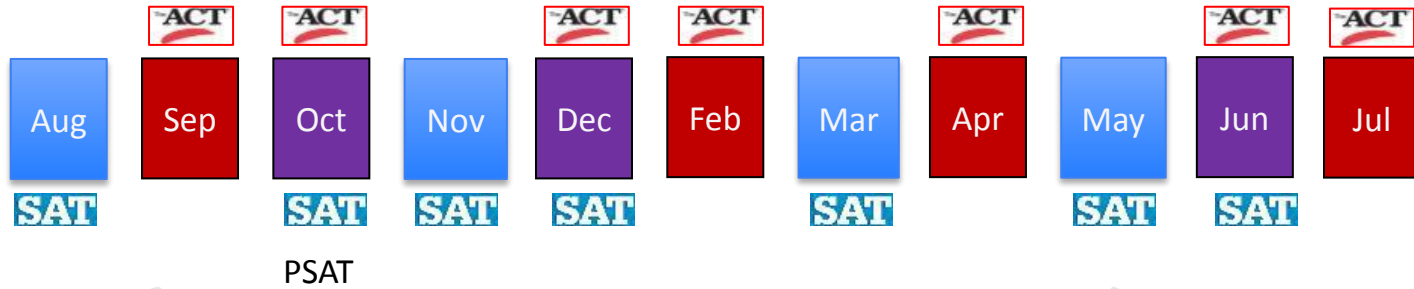
# Response from the ACT

- ACT will continue to administer its computer -based version of the current paper test, as it has since September 2019
- ACT is offering its digital, non-adaptive test to individual students in select markets, rolling out the test more broadly in 2024.

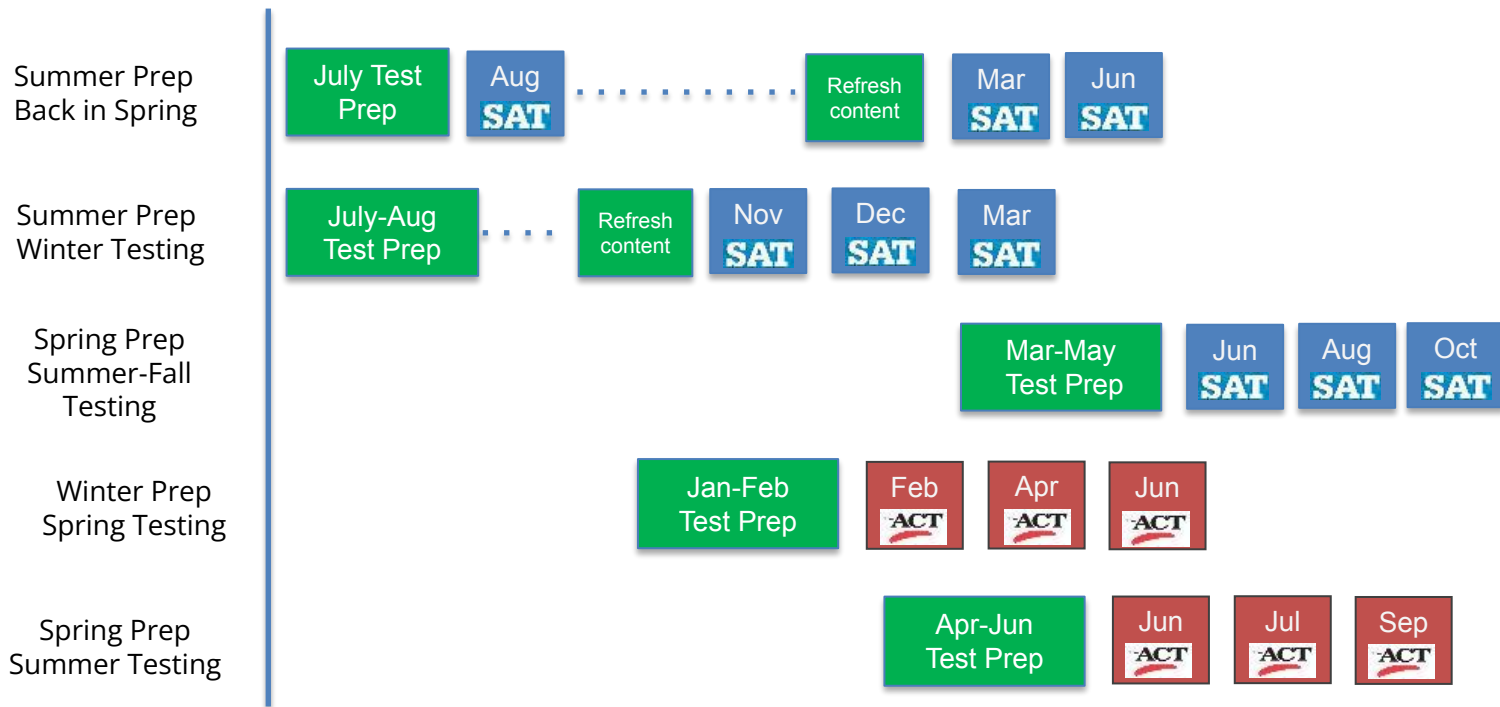




# Testing Timelines



# Choose a schedule to meet the student's needs



# Applerouth's Digital SAT practice tests.

- Applerouth has released three complete digital adaptive SAT practice tests.
- Score reports offer in-depth analysis of the types of questions missed and can be used to create a tailored study plan.



# Broader Testing Context

# The new world order is predominately test optional



- 2,000 schools are test optional for this admissions cycle, that's more than  $\frac{3}{4}$  of all US colleges and Universities
- But that doesn't mean a strong test score is not going to strengthen an application and potentially impact an admissions decision

# Colleges can pursue one of 4 paths

Test  
Required

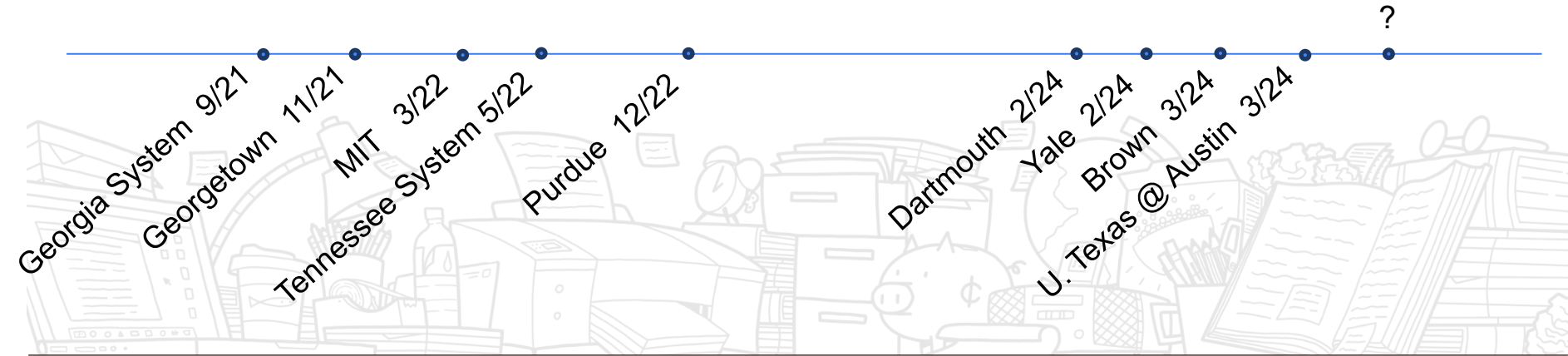
Test  
Optional

Test  
Flexible

Test  
Blind

# Testing is beginning to make a comeback

The pandemic drove the world into a test optional position, and it's taken some time for testing requirements to slowly return



# Numerous highly selective colleges are returning to testing



DARTMOUTH



BROWN



YALE



# The rationale for reinstating test-requirements

- “Our research has shown that, in most cases, we cannot reliably predict students will do well at MIT unless we consider standardized test results alongside grades, coursework, and other factors.” **Stuart Schmill, MIT Dean of Admissions**
- “Standardized test scores are a much better predictor of academic success than high school grades.” **Christina Paxson, Pres. Brown University**
- “Test scores are the single greatest predictor of a student’s future Yale grades.” **Jeremiah Quinlan, Dean of Admissions**
- High school GPA “explains a lot less than SAT does alone.” **Bruce Sacerdote, Researcher Dartmouth**
- Test-submitters had significantly higher GPAs, an average of 0.86 grade points higher, after controlling for high school grades and class rank.  
**UT president, Jay Hartzell**

## What's Driving the Selectives?

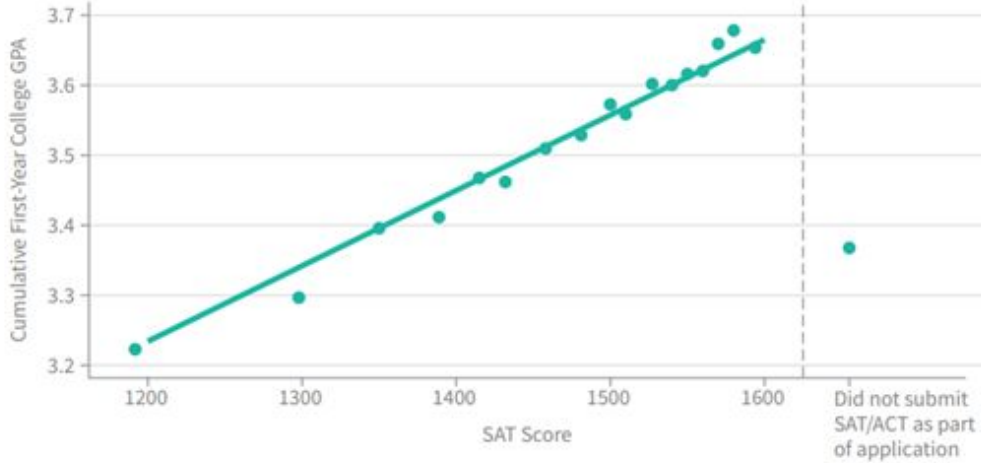
Raj Chetty's group at Harvard, Opportunity Insights, Investigated Admissions outcomes for 12 Ivy Plus schools (Ivies + MIT, Duke, Chicago, Stanford). The research revealed standardized testing to be superior to HSGPA to predict performance at these 12 institutions, and a means to identify strong underrepresented candidates



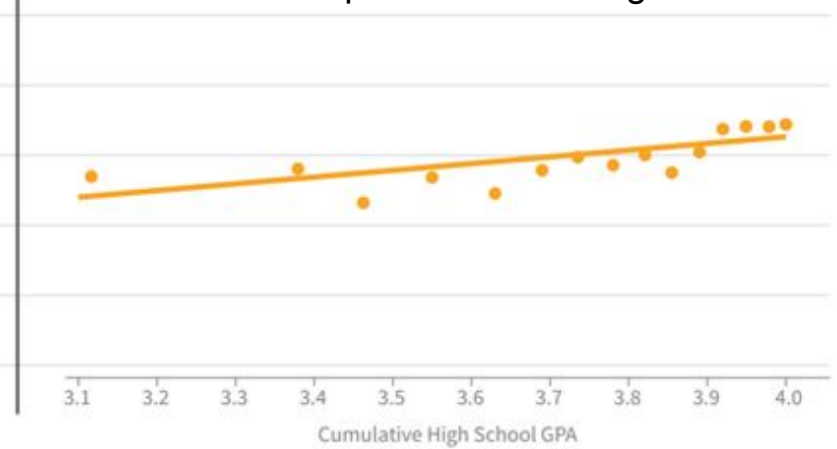


# OPPORTUNITY INSIGHTS

### Testing as a predictor of College GPA



### HSGPA as a predictor of College GPA



# Test score submitters performed better academically



- For the current UT Austin class of 9,217 freshman, those who “submitted test scores were 55 percent less likely to have a first semester G.P.A. below 2.0.”
- Test-submitters had significantly higher GPAs, an average of 0.86 grade points higher, after controlling for high school grades and class rank.

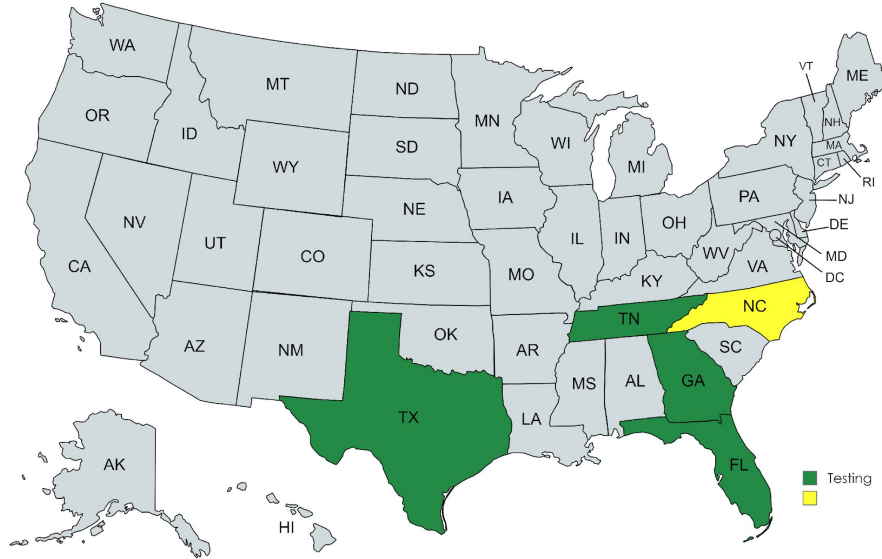
# Why test scores still matter for many schools

- Test scores are a hedge against the grade inflation and grade compression that have been rampant in the US, making “having all A’s” not so special.
- Test scores are a strong predictor of graduation within 4 and 6 years
- Test scores are a helpful way to compare a broad, diverse group of applicants (useful for state schools)
- Test scores help differentiate students who might otherwise look similar (highly selectives)

# Testing still required by public colleges in some states



# Test Requirements may return to some larger state schools, particularly in the south



NC, contemplating return

GA, TX required for flagships

Alabama and Carolinas could return to testing

# Conditional Test Optional

Auburn extended a test-flexible option for 2023.

“While we **encourage** students to submit standardized test scores, they are not required for admission consideration. Applicants with **at least a 3.6 GPA** who cannot secure a test will be considered for admission under our test-optional pathway.”





# Some schools are test blind/free

Cal. Tech	Loyola U. New Orleans
City University of New York system	Northern Ill. U
Dickinson College	Washington State U.
Idaho public universities	Catholic University
Reed College	Worcester Poly Inst
Washington St. University	University of California system
Bosie State U.	St Mary's (TX)
Pitzer College	California State University System

# Colleges giving clues about what test-optional means



- If you get the score you hoped for, and especially if it's above **average for Grinnell**, submitting the score may help you in the admission process.
- Keep in mind that we consider your test score in context. Even if your score is not above average for Grinnell, but it is for your high school or neighborhood, your score may help you in the admission process.
- A high SAT or ACT score can offset a low GPA. **If you don't submit a score, we have less information about your academic performance.** If you have a low GPA but do well on the SAT or ACT, your test score can be an important indicator of your potential to succeed in college-level classes.

# Strong test scores can affect merit aid

Many schools consider test scores, rigor, and GPA in the allocation of merit-based aid



# Sample merit scholarship: U of Alabama



Alabama Tuition 2024

In-State: \$11,100

Out of State: \$32,400

Name of Scholarship	HS GPA	SAT Score	ACT Score	Annual Award	Total Savings
Capstone	3.5	1260-1290	27	\$8,000	\$32,000
Collegiate	3.5	1310-1320	28	\$10,000	\$40,000
Foundation in Excellence	3.5	1330-1350	29	\$15,000	\$60,000
UA Scholar	3.5	1360-1410	30-31	\$24,000	\$96,000
Presidential	3.5	1420-1600	32-36	\$28,000	\$112,000

# Test Optional Does Not Mean Test Blind

- Colleges that are test optional continue to factor in strong scores into the admissions equation
- Strong test scores can strengthen an application
- Strong test scores can heighten one's chances of securing merit-based financial aid at select colleges

# To submit or not to submit to optional schools?

- Weak test scores will not enhance an application to a highly selective school
- Strong scores communicate a strength and should be included in an application
- If there are other holes in the application, testing can help provide more context
- Testing can help demonstrate readiness for college-level work if colleges aren't familiar with your school
- Testing may affect merit-based aid and placement

**Did test-score submitters have an edge?**

# Boston College Data



		Accepted	Admit Rate
Applied with tests	17,405 (43%)	5,126 (67%)	29%
Applied without tests	23,072 (57%)	2,525 (33%)	11%
Applied total	40,477	7,651	18.9%



# The testing advantage:

College/ University	Admit Rate w. Tests	Admit Rate w/o Tests	Testing Advantage
Yale	6%	2%	200%
Boston College	29%	11%	169%
Georgia Tech*	22%	10%	120%
Colgate	25%	12%	108%
Notre Dame	22%	11%	99%
Emory	17%	9%	98%
UVA	26%	14%	89%
Wellesley	17%	9%	83%
Barnard	10%	6%	56%
Tufts	13%	9%	44%
Fordham	63%	49%	29%
Vanderbilt	7%	6%	20%

Available admissions data, 2021-present

# Jeremiah Quinlan



Yale University

- If you just look at the rate of admission, **It's been about a 6% admit rate for students with scores and only a 2% rate of admission for students without scores.**"
- "As we got through each month and each cycle, **I became more and more convinced that we weren't being honest about the reality of our admissions process to students and parents.** Our admissions committee is denying 98% of the students who are applying without test scores, and we were feeling like we were missing out on important data from students...."
- "**Students who were not submitting their test score were inadvertently hurting their chances of admission to Yale.**"

**Should I send in my test scores with my application?**

# Get your baseline testing in before making any decisions

- It's a smart move to get a baseline SAT and ACT score under your belt before making any decisions about whether to prep for either test or consider submitting your scores
- If your scores are close to what a college is looking for, preparing for the tests may play to your advantage.
- If your scores are way below the desired range for a college, it may be wise to invest your energy in other areas of the application

**Are the scores going to add value to the application? Are they something you want the admissions office to see?**

# Differential rates of submission by Major

- One public research university with a national footprint
- 59% submitted test scores, but **big differences by major**
- 75% engineering. 55% business. 35% education, social work, general

STEM students trying to showcase their quantitative chops via testing

# Go with your strengths

- If a student has a test score in the upper 50% of the prior year's range, Clark, advises students to “send it: it's not going to hurt you in any regard.”
- For students in the lower 50%, it depends. “If [that score] is something you want us to look at, and it's representative of you as a student, send it.”
- Scores in the bottom quartile, Clark advised, “I wouldn't send it.” And instead, he urges students to “go with your strengths.”



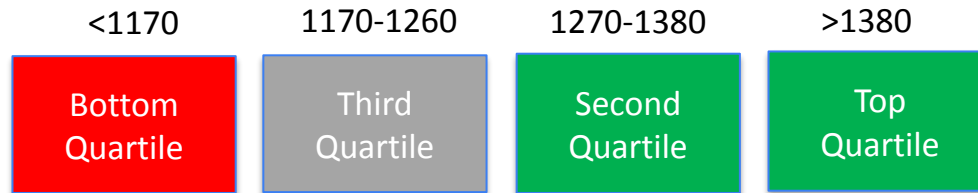
Rick Clark  
GA Tech

# Submit or not submit

- Bottom Quartile (typically don't submit)
- 25-50% (gray area)
- 50-75% (typically submit)
- Top Quartile (always submit)



Middle 50%  
1170-1380





# Middle 50% score ranges up at many colleges

	2020 CDS enrolled		2023/4 CDS enrolled	
Emory	1390	1510	1450	1530
Colgate	1300	1460	1418	1510
Davidson	1310	1460	1360	1510
Yale	1470	1560	1470	1560
Tulane	1360	1470	1400	1490
Michigan	1340	1520	1350	1530
Ohio State	1300	1420	1260	1420
U. Vermont	1180	1340	1280	1420
Average	1331	1468	1374 ↑	1496 ↑

# Higher Scores and Selectivity

	Score increase middle 50%		2020 Apps	2020 Acc. %	2023 Apps	2023 Acc. %
Emory	+60	+20	28,211	19.2%	33,179	11.4%
Colgate	+120	+50	8,583	27.5%	21,109	12.4%
Davidson	+50	+50	5,982	18.1%	6,479	16.9%
Yale	0	0	35,220	6.5%	50,600	4.6%
Tulane	+40	+20	31,615	11.5%	43,892	11.1%
Michigan	+10	+10	65,021	26.1%	84,289	17.7%
Ohio State	0	0	49,087	68.4%	58,180	57.2%
U. Vermont	+100	+80	18,564	71.3%	30,321	59.7%
Average	+40	+30	30,285	31.1%	38,552	23.9%

Colleges get more apps, greater selectivity and higher average scores with TO admissions

# Take a broader lens when considering submitting your score

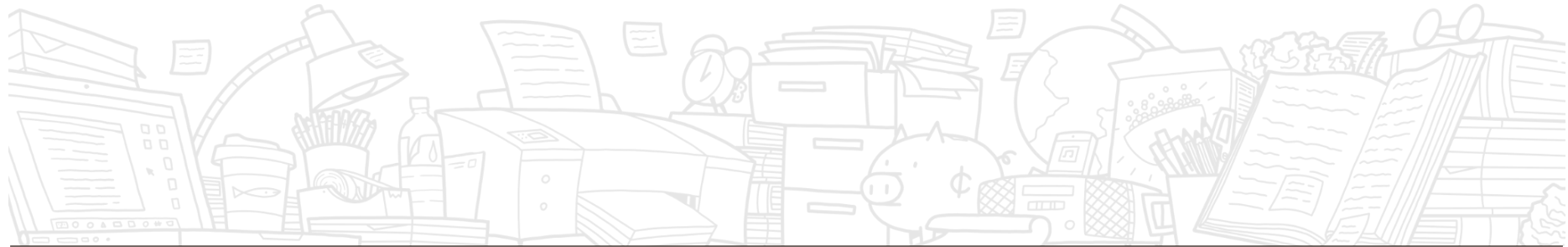
- The Brown testing committee acknowledged that “median test scores have risen under the test-optional policy, as students with weaker testing have chosen not to submit their scores.” These inflated scores may be “intimidating to applicants.”
- Test optional admissions typically wipes out the bottom quarter of test submissions
- Look back a few years to consider if your test scores are competitive



# applerouth

---

Building Better Learners for Life



[info@applerouth.com](mailto:info@applerouth.com) | 1-866-789-7737

