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Students Taking Action For Future Success

Presenter: Paras Jain

Overview

- Why take the test?
- SAT Overview
- ACT Overview
- SAT vs. ACT
- Which test to take?
- When to take the test?
- How to prepare for the test?
- Tricks for SAT Math
- Tricks for SAT Reading
- Upcoming Test Dates
- Questions

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College Admission

Main Factors

- Rigor of curriculum
- GPA
- Extra-curricular
- SAT/ACT Scores (Required vs Test Optional vs Test Blind)
- Admission Essays

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Required vs Test Optional vs Test Blind

- **Class of 2021**
  - Most colleges are Test Optional
  - Select few schools are Test Blind
  - If they are Test Optional, a high SAT/ACT score can strengthen an application

- **Class of 2022**
  - Check on College Website – many colleges have not decided
  - In our opinion, most schools will remain Test Optional – SAT/ACT scores will serve to strengthen an application
  - Scholarships at many schools will be determined by test scores

- **Class of 2023**
  - In our opinion, many colleges will continue to be Test Optional though a strong SAT/ACT score will only strengthen a student's application
  - Scholarships at many schools will be determined by test scores

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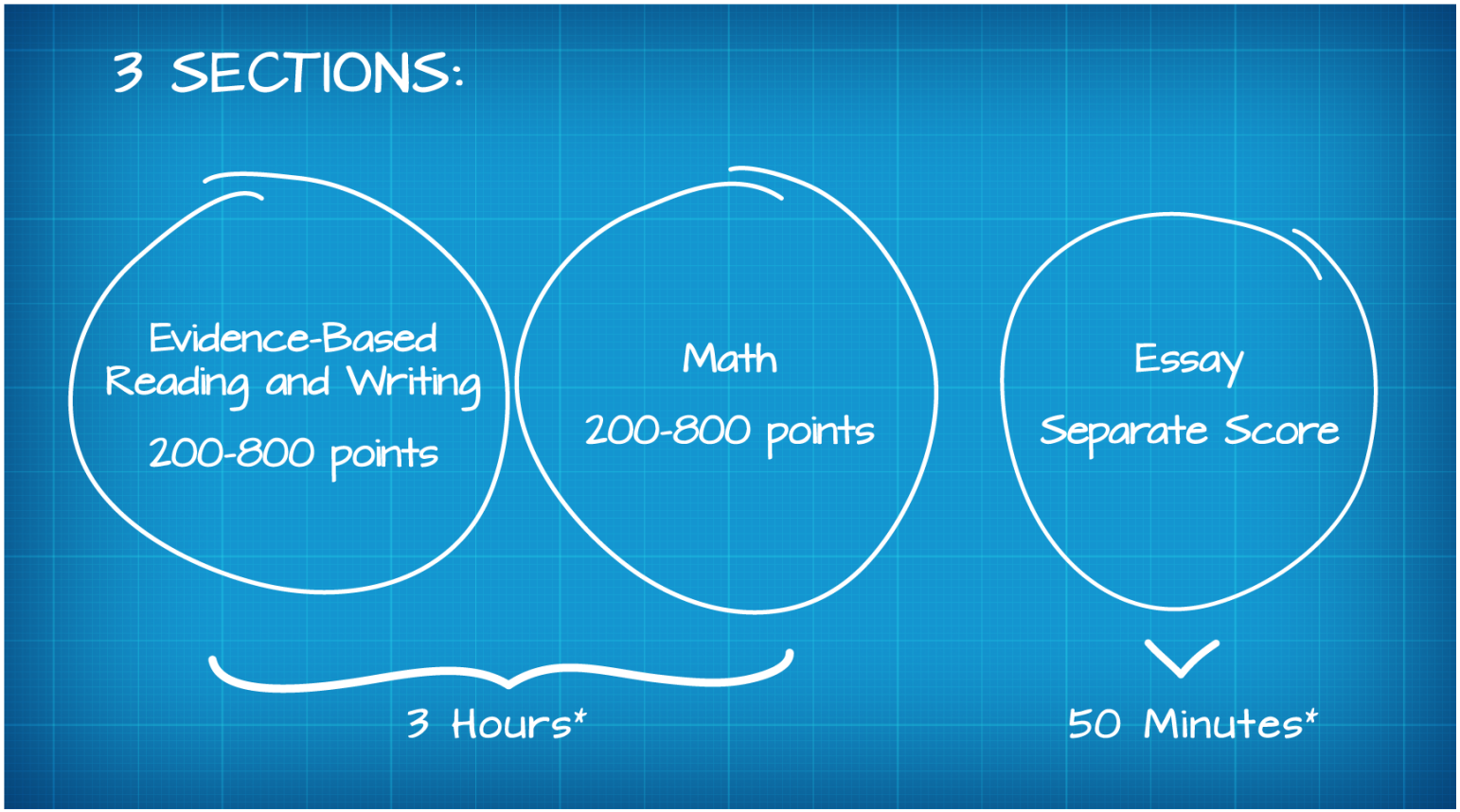
SAT



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SAT

- **Score Highlights**
  - 1600 Perfect Score
    - 2 – 800 Point Sections
  - NO Penalty for wrong answers

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SAT Reading
800 Points

- **Section 1**
  - **Reading 65 Minutes**
    - **5 Reading Passages – 52 Questions**
    - **Passage topics include: US and World Literature, History, and Sciences**
- **Section 2**
  - **Writing and Language 35 Minutes**
    - **4 Passages – 44 Questions**

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SAT Reading – Section 1

Questions 1-10 are based on the following passage.

This passage is adapted from MacDonald Harris, *The Balloonist*. ©2011 by The Estate of Donald Heiney. During the summer of 1897, the narrator of this story, a fictional Swedish scientist, has set out for the North Pole in a hydrogen-powered balloon.

My emotions are complicated and not readily verifiable. I feel a vast yearning that is simultaneously a pleasure and a pain. I am certain of the consummation of this yearning, but I don't know yet what form it will take, since I do not understand quite what it is that the yearning desires. For the first time there is borne in upon me the full truth of what I myself said to the doctor only an hour ago: that my motives in this undertaking are not entirely clear. For years, for a lifetime, the machinery of my destiny has worked in secret to prepare for this moment; its clockwork has moved exactly toward this time and place and no other. Rising slowly from the earth that bore me and gave me sustenance, I am carried helplessly toward an uninhabited and hostile, or at best indifferent, part of the earth, littered with the bones of explorers and the wrecks of ships, frozen supply caches, messages scrawled with chilled fingers and hidden in cairns that no eye will ever see. Nobody has succeeded in this thing, and many have died. Yet in freely willing this enterprise, in choosing this moment and no other when the south wind will carry me exactly northward at a velocity of eight knots, I have converted the machinery of my

1

Over the course of the passage, the narrator's attitude shifts from

A) fear about the expedition to excitement about it.

B) doubt about his abilities to confidence in them.

C) uncertainty of his motives to recognition of them.

D) disdain for the North Pole to appreciation of it.

2

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

A) Lines 10-12 ("For . . . moment")

B) Lines 21-25 ("Yet . . . will")

C) Lines 42-44 ("And . . . stand on")

D) Lines 56-57 ("What . . . myself")

3

As used in lines 1-2, "not readily verifiable" most nearly means

A) unable to be authenticated.

B) likely to be contradicted.

C) without empirical support.

D) not completely understood.

SAT Language and Writing – Section 2

The Hype of Healthier Organic Food

Some people buy organic food because they believe organically grown crops are more nutritious and safer for consumption than 12 the people who purchase their conventionally grown counterparts, which are usually produced with pesticides and synthetic fertilizers. In the name of health, 13 spending $1.60 for every dollar they would have spent on food that is 14 grown in a manner that is considered conventional. Scientific evidence, 15 therefore, suggests that consumers do not reap significant benefits, in terms of either nutritional value or safety, from organic food.

12

A) NO CHANGE
B) the purchase of
C) purchasing
D) DELETE the underlined portion.

13

A) NO CHANGE
B) these consumers spend
C) having spent
D) to spend

14

A) NO CHANGE
B) grown with conventional methods, using pesticides and synthetic fertilizers.
C) conventionally and therefore not organically grown.
D) conventionally grown.

15

A) NO CHANGE
B) furthermore,
C) however,
D) subsequently,

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SAT Math
800 Points

- **Section 3**
  - **Math No Calculator 25 Minutes**
- **Section 4**
  - **Math Calculator 55 Minutes**

Focus areas: **Problem Solving and Data Analysis, the Heart of Algebra, Passport to Advanced Math**

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SAT Math No Calculator – Section 3

Last week Raul worked 11 more hours than Angelica. If they worked a combined total of 59 hours, how many hours did Angelica work last week?

A) 24

B) 35

C) 40

D) 48

Level 2

A customer paid $53.00 for a jacket after a 6 percent sales tax was added. What was the price of the jacket before the sales tax was added?

A) $47.60

B) $50.00

C) $52.60

D) $52.84

Level 3

C

$$\sqrt{x-a} = x-4$$

If $a = 2$, what is the solution set of the equation above?

A) $\{3, 6\}$

B) $\{2\}$

C) $\{3\}$

D) $\{6\}$

Level 3

$$x^2 - \frac{k}{2}x = 2p$$

In the quadratic equation above, k and p are constants. What are the solutions for x ?

A) $x = \frac{k}{4} \pm \frac{\sqrt{k^2 + 2p}}{4}$

B) $x = \frac{k}{4} \pm \frac{\sqrt{k^2 + 32p}}{4}$

C) $x = \frac{k}{2} \pm \frac{\sqrt{k^2 + 2p}}{2}$

D) $x = \frac{k}{2} \pm \frac{\sqrt{k^2 + 32p}}{4}$

Level 5

SAT Math Calculator – Section 4

Line ℓ in the xy-plane contains points from each of Quadrants II, III, and IV, but no points from Quadrant I. Which of the following must be true?

A) The slope of line ℓ is undefined.

B) The slope of line ℓ is zero.

C) The slope of line ℓ is positive.

D) The slope of line ℓ is negative.

Level 2

The *pes*, a Roman measure of length, is approximately equal to 11.65 inches. It is also equivalent to 16 smaller Roman units called digits. Based on these relationships, 75 Roman digits is equivalent to how many feet, to the nearest hundredth? (12 inches = 1 foot)

Level 3

The stock price of one share in a certain company is worth \$360 today. A stock analyst believes that the stock will lose 28 percent of its value each week for the next three weeks. The analyst uses the equation $V = 360(r)^t$ to model the value, V, of the stock after t weeks.

37

What value should the analyst use for r ?

Level 4

$$f(x) = 2x^3 + 6x^2 + 4x$$
$$g(x) = x^2 + 3x + 2$$

The polynomials $f(x)$ and $g(x)$ are defined above. Which of the following polynomials is divisible by $2x + 3$?

A) $h(x) = f(x) + g(x)$

B) $p(x) = f(x) + 3g(x)$

C) $r(x) = 2f(x) + 3g(x)$

D) $s(x) = 3f(x) + 2g(x)$

Level 5

ACT

- **Score Highlights**
  - 36 is a Perfect Score (average of 4 sections)
    - 4 – 36 Point Sections
  - Scores for the Essay section will be reported separately
  - NO Penalty for wrong answers

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ACT

- **Section 1**
  - **English 45 Minutes**
    - **5 Passages – 75 Questions**
- **Section 2**
  - **Math 60 Minutes**
    - **60 Questions – All Multiple Choice**
- **Section 3**
  - **Reading 35 Minutes**
    - **4 Reading Passages – 40 Questions**
- **Section 4**
  - **Science 35 Minutes**
    - **6 Passages – 40 Questions**

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ACT Science – Section 4

Passage I

Researchers studied how diet and the ability to smell food can affect the life span of normal fruit flies (Strain N) and fruit flies unable to detect many odors (Strain X).

Study 1

Three tubes (Tubes 1–3), each with *15% sugar yeast* (SY) *medium* (a diet with 15% sugar and 15% killed yeast), were prepared. Then, 200 virgin female Strain N fruit flies less than 24 hr old were added to each tube. No additional substance was added to Tube 1. Additional odors from live yeast were added to Tube 2, and live yeast was added to Tube 3. The percent of fruit flies alive was determined every 5 days for 75 days (see Figure 1).

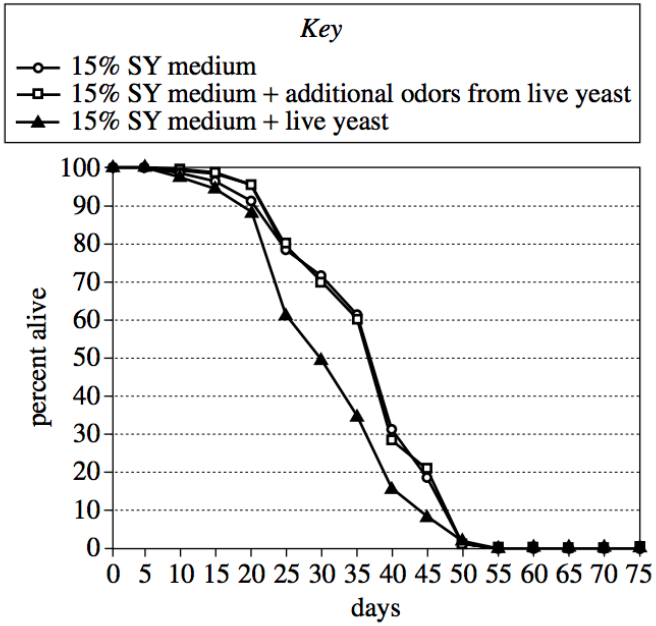

Figure 1

Study 2

Three tubes (Tubes 4–6), each with 5% SY medium (a diet with 5% sugar and 5% killed yeast), were prepared. Then, 200 virgin female Strain N fruit flies less than 24 hr old were added to each tube. No additional substance was added to Tube 4. Additional odors from live yeast were added to Tube 5, and live yeast was added to Tube 6. The percent of fruit flies alive was determined every 5 days for 75 days (see Figure 2).

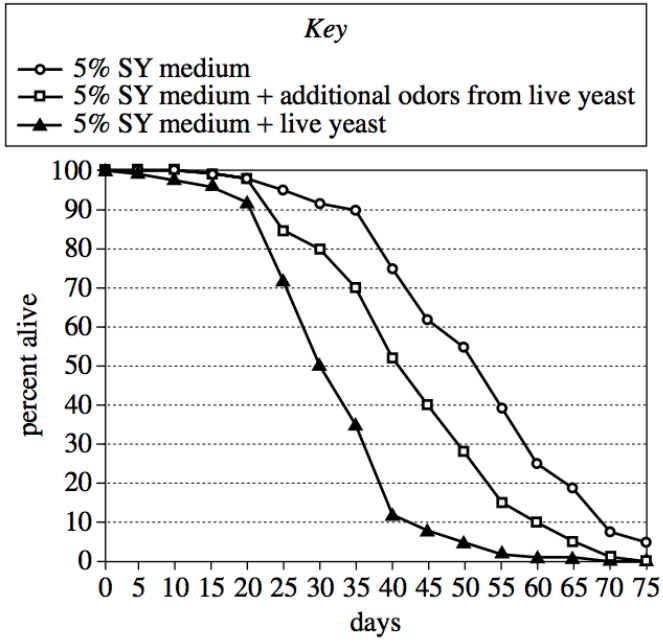

Figure 2

ACT Science – Section 4

1. In which of Studies 1 and 2 did some of the fruit flies live for more than 75 days, and what diet were those fruit flies fed?

   A. Study 1; 5% SY medium
   B. Study 1; 15% SY medium
   C. Study 2; 5% SY medium
   D. Study 2; 15% SY medium

2. During Studies 1 and 2, why did the size of the fruit fly population in each tube decrease rather than increase?

   F. The birthrate was 0, because the initial population contained only males.
   G. The birthrate was 0, because the initial population contained only virgin females.
   H. The death rate was 0, because the initial population contained only males.
   J. The death rate was 0, because the initial population contained only virgin females.

3. Study 1 differed from Study 2 in which of the following ways?

   A. Female fruit flies were tested in Study 1, whereas male fruit flies were tested in Study 2.
   B. Male fruit flies were tested in Study 1, whereas female fruit flies were tested in Study 2.
   C. The SY medium tested in Study 1 contained a lower percent of sugar than did the SY medium tested in Study 2.
   D. The SY medium tested in Study 1 contained a higher percent of sugar than did the SY medium tested in Study 2.

Difference Between the SAT and ACT

- The SAT doesn't have a science section.
  - The science section of the ACT is easy to master, and has nothing to do with science.

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Difference Between the SAT and ACT

- SAT Math has fill-in-the-blank problems, and a No Calculator section
  - ACT lets you use the calculator on all sections and all questions are multiple choice

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Difference Between the SAT and ACT

- **The SAT is less time intensive**
  - The SAT gives you more time per problem, so it's much less intense timing wise.
  - The ACT makes you really pace yourself

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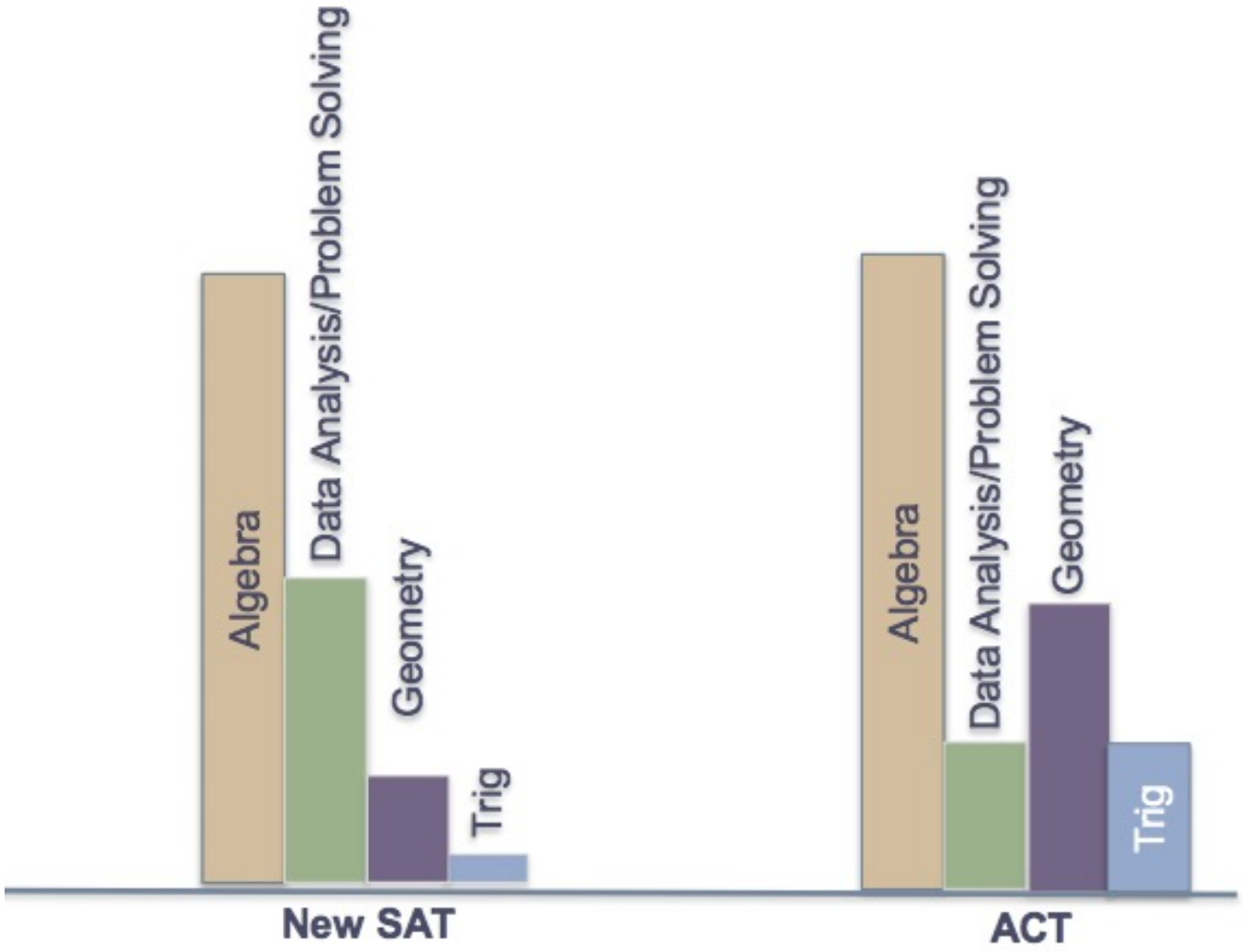
Difference Between the SAT and ACT



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Which test to take?

- **Very simple to decide!**
  - Grab a copy of both tests.
  - Spend time looking at each test and see which one you like best
    - PRO TIP: Take a full-length test for both SAT and ACT and compare results

- www.staffsprep.com/blog
  - Links to both tests

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What do the scores mean?

College	Average SAT Scores	Average ACT Scores
Rutgers University – New Brunswick	1250-1430	26-31
Harvard	1480-1600	32-36
Boston University	1290-1480	27-31
NYU	1320-1500	28-32
Monmouth University	1020-1210	20-25

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When should you take the SAT/ACT?

- **9th/10th Grade**
  - Start getting familiar with the format of the test
  - Take the PSAT
- **11th Grade**
  - Start looking at college requirements
  - Take the SAT/ACT twice
    - Track 1 (advanced Math): First test in December. Second test in Spring
    - Track 2 (regular Math): First test in March. Second test in May/June
- **12th Grade**
  - Last attempt at the SAT/ACT in August/September/October/November
  - College Application Deadlines – November onwards

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Latest SAT News

- Phasing out SAT Essay
  - June 2021 last test date if you want to take the SAT Essay

- Phasing out SAT Subject Tests
  - Eliminating immediately. Anyone signed up for a Subject Test, will have their $ refunded.

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When should you start studying for the SAT/ACT?

- 9th and 10th grade
  - Start building fundamentals as early as 9th grade
  - Expose yourself to SAT Reading passages early on in High School
  - Learn grammar rules

- 11th grade
  - Depending on when you decide to take your first SAT, you should start serious prep 30-45 days before the test date

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SAT Study Plan

- Week 1 – Math Content [we can provide worksheets]
- Week 2 – Grammar Content [we can provide worksheets]
- Week 3 – Reading Passages [we can provide passages]

- Week 4 – Practice Test 1 and Test 2 [Test Book]
- Week 5 – Practice Test 3 and Test 4 [Test Book]
- Week 6 – Practice Test 5 and Test 6 [Test Book]

Questions taken from www.collegeboard.com

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Resources

- Khan Academy
- CollegeBoard.com
  - 8 Practice SAT Tests (can also buy the book on Amazon)
- ACT – The Real ACT (Red Color Book)
- Prep Classes (STAFFS Prep, Kaplan, Princeton Review)
- Private Tutoring (STAFFS Prep, High School teachers, Family Friends)

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Resources

- **SAT/ACT Prep Courses**
  - 1-2 months before every major testing date
  - 14 hour course
  - www.staffsprep.com/classroomprep

- **SAT/ACT Crash Courses**
  - 2 night events covering some of the most tested topics on the test
  - www.staffsprep.com/crashcourse

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SAT Math Tricks

- Plugging-in Numbers
- Input/Output
- Working Backwards

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SAT Math Tricks

- Plugging-in Numbers

Which of the following is equivalent to the expression $3^{a+2} - 3^{a}$?

A) 3

B) 3^{a-2}

C) $8(3^{a+2})$

D) $8(3^{a})$

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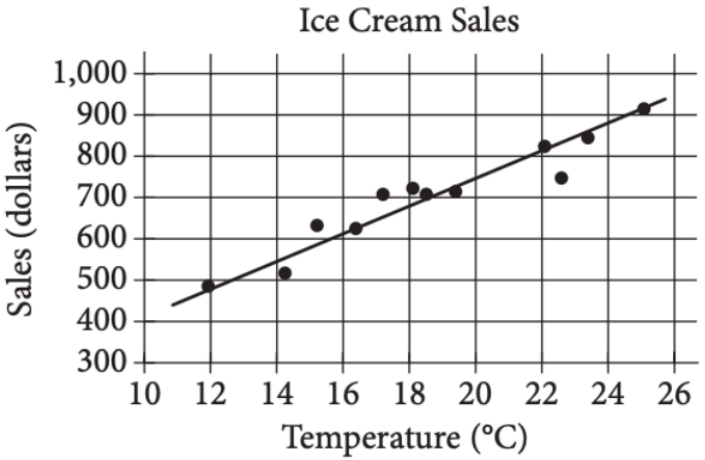
SAT Math Tricks

- Input/Output



The scatterplot above shows a company's ice cream sales d, in dollars, and the high temperature t, in degrees Celsius (°C), on 12 different days. A line of best fit for the data is also shown. Which of the following could be an equation of the line of best fit?

A) $d = 0.03t + 402$

B) $d = 10t + 402$

C) $d = 33t + 300$

D) $d = 33t + 84$

Questions taken from www.collegeboard.com

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SAT Math Tricks

- Working Backwards

$$\sqrt{2x+6}+4=x+3$$

What is the solution set of the equation above?

A) $\{-1\}$

B) $\{5\}$

C) $\{-1, 5\}$

D) $\{0, -1, 5\}$

Questions taken from www.collegeboard.com

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SAT Reading Tricks

- Paired Questions

7

Based on the artistic philosophy expressed in the fourth paragraph (lines 46-59), it is reasonable to infer that Precious Auntie would consider a hastily written first draft of a story to be

A) emotionally raw and powerful.

B) creatively satisfying for the author.

C) essentially worthless in and of itself.

D) inappropriately analytical for a piece of art.

8

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

A) Lines 46-48 ("As he . . . meaning")

B) Lines 49-50 ("Good . . . bottle")

C) Lines 52-55 ("You simply . . . spawn")

D) Lines 57-59 ("You push . . . mind")

Questions taken from www.collegeboard.com

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SAT Reading Tricks

Paired Passages

Passage 1

"Pathogens are acquiring resistance faster than we can introduce new antibiotics, and this is causing a human health crisis," says biochemist Kim Lewis of Northeastern University.

Lewis is part of a team that recently unveiled a promising antibiotic, born from a new way to tap the powers of soil microorganisms. In animal tests, teixobactin proved effective at killing off a wide variety of disease-causing bacteria—even those that have developed immunity to other drugs. The scientists' best efforts to create mutant bacteria with resistance to the drug failed, meaning teixobactin could function effectively for decades before pathogens naturally evolve resistance to it.

Natural microbial substances from soil bacteria and fungi have been at the root of most antibiotic drug development during the past century. But only about one percent of these organisms can be grown in a lab. The rest, in staggering numbers, have remained uncultured and of limited use to medical science, until now. "Instead of trying to figure out the ideal conditions for each and every one of the millions of organisms out there in the environment, to allow them to grow in the lab, we simply grow them in their natural environment where they already have the conditions they need for growth," Lewis says.

Passage 2

Many good antibiotic families—penicillin, streptomycin, tetracycline—come from soil fungi and bacteria and it has long been suspected that, if we could grow more types of bacteria from soil—or from exotic environments, such as deep oceans—then we might find new natural antibiotics. In a recent study, researchers [Kim Lewis and others] found that they could isolate and grow individual soil bacteria—including types that can't normally be grown in the laboratory—in soil itself, which supplied critical nutrients and minerals. Once the bacteria reached a critical mass they could be transferred to the lab and their cultivation continued. This simple and elegant methodology is their most important finding to my mind, for it opens a gateway to cultivating a wealth of potentially antibiotic-producing bacteria that have never been grown before.

The first new antibiotic that they've found by this approach, teixobactin, from a bacterium called *Eleftheria terrae*, is less exciting to my mind, though it doesn't look bad. Teixobactin killed Gram-positive bacteria, such as *S. aureus*, in the laboratory, and cured experimental infection in mice. It also killed the tuberculosis bacterium, which is important because there is a real problem with resistant tuberculosis in the developing world. It was also difficult to select teixobactin resistance.

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Questions taken from www.collegeboard.com

SAT Reading Tricks

Paired Passages

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The first paragraph of Passage 1 primarily serves to

A) present a claim that is supported and developed over the course of the passage.

B) introduce a controversy that the study described in the passage is intended to resolve.

C) identify a problem that the research discussed in the passage may help to address.

D) offer a theory that is challenged by the findings presented in the passage.

46

The author of Passage 2 would most likely agree with which statement about the development of teixobactin?

A) It reveals that some antibiotics are effective against gram-negative bacteria.

B) It shows that conventional methods can still yield new types of antibiotics.

C) It casts doubt on the practicality of searching for new antibiotics in exotic environments.

D) It confirms a long-held belief about a potential source of new antibiotics.

49

Which choice best describes the relationship between Passage 1 and Passage 2?

A) Passage 2 offers an evaluation of the significance of the research discussed in Passage 1.

B) Passage 2 suggests a modification to the methodology described in Passage 1.

C) Passage 2 uses concrete examples to illustrate concepts considered in Passage 1.

D) Passage 2 takes a dismissive stance regarding the findings mentioned in Passage 1.

Questions taken from www.collegeboard.com

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Now time to take the SAT…

Which of the following is always equivalent to the expression $2^{a+1} - 2^a$?

A) 2^{2a+1}
B) 2^{2a-1}
C) 2^{2a}
D) 2^a

- **Variables in the question, variable in the answer –> PLUG-IN Numbers**

1) Let's make a =2
2) Based on the value of *a* being 2, let's solve for the problem
   $2^3-2^2 = 4$
3) We plug *a* back into the answer choices to see where we get 4.
4) Answer choice D

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Best Advice

- START EARLY!

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Questions?

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Take a practice test:

www.staffsprep.com/satdiagnostic

Password: STAFFS2016

Sign up for classes:

www.staffsprep.com/register

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