

**SAT**

**WORKSHOP**

**BOBBY KENNEY**

**AS ALWAYS,  
THANK YOU!**

# LOGISTICS

- End @ 11
- SAT/PSAT 10 this Wednesday (4/17)
- PSAT 9 this Thursday (4/18)

# GET THESE SLIDES

- Get all slides from this course:

[experttestprep.com/columbine](https://experttestprep.com/columbine)

# TODAY'S GOALS

- Recap Practice Test 5
  - Test-day takeaways
  - Answer your questions
  - Review reading problems
  - Review math problems
- Review the SAT
  - Math and Reading strategies

**PART I**

**PRACTICE**

**TEST 5**

# TEST-DAY TAKEAWAYS

- Bring layers
- Eat breakfast
  - Drink coffee/tea?
- Charge your computer the night before
- Turn on Bluebook the day before so it can update
- Learn to zoom in/out
- If Desmos does not graph, make sure caps lock is off (x and y must be lowercase)

# YOUR QUESTIONS

- How do you manage your time?
- How do you keep focus?
- What if you don't know an answer?
- Should you work through a question you know how to do but realize will take a long time, or is it better to return to it at the end of the test?



# YOUR QUESTIONS

## How do you manage your time?

- Order of Reading section questions
- Learn to flag hard questions after ~1 min, then guess and move on
  - Should flag up to 5 throughout a section
- Predict what the answer should be
- Use the answer eliminator tool

# ORDER OF QUESTIONS

Questions always go in this order:

1. Vocabulary (2-4 questions)
2. Reading comprehension (10-12 questions)
  - a. Question types: main idea, draw conclusions, function of underlined portion, interpret data, scientific inference
3. Grammar (7-9 questions)
  - a. Question types: subject-verb agreement, pronoun choice, punctuation, modifier placement, apostrophes
4. Transitions (1-4 questions)
5. Rhetorical synthesis (2-5 questions)
  - a. New question type!

# ORDER OF QUESTIONS

Do the questions in this order:

1. Vocabulary (2-4 questions)—1st
2. Reading comprehension (10-12 questions)—SKIP (5th)
  - a. Question types: main idea, draw conclusions, function of underlined portion, interpret data, scientific inference
3. Grammar (7-9 questions)—2nd
  - a. Question types: subject-verb agreement, pronoun choice, punctuation, modifier placement, apostrophes
4. Transitions (1-4 questions)—3rd
5. Rhetorical synthesis (2-5 questions)—4th
  - a. New question type!

# YOUR QUESTIONS

## How do you keep focus?

- Get ample sleep for several nights before test
- Eat breakfast
- Make your body move
- Read the question before reading passage
- Annotate important words (negatives, transitions, words that show connotation)

# YOUR QUESTIONS

## What if you don't know an answer?

- Expect this to happen!
- Put your best guess, then flag question
- Eliminate extreme answers, ones that draw too far of a conclusion, ones that are the opposite meaning, ones that are judgments
- For vocab: don't be afraid to put a word you don't know (if you've eliminated everything you do know)

# YOUR QUESTIONS

**Should you work through a question you know how to do but realize will take a long time, or is it better to return to it at the end of the test?**

- Like all things, this is a balance
- You have nearly 2 minutes per question overall (and likely  $>2$  min for hard questions)
  - Can you finish the question within 2 minutes?
- Look for a shortcut
- Simplify the problem as much as possible

# TEST 5 READING QUESTIONS

Select questions from both Reading modules

# RHETORICAL SYNTHESIS

- 4-8 questions total (7-15% of test)
- Always the last ones on a module
- Question features a series of bullet-point notes taken on a subject
- You are asked to synthesize the information to achieve a rhetorical goal
  - “The student wants to emphasize the aim of the research study.”
  - “The student wants to emphasize the study’s methodology.”
  - “The student wants to emphasize the duration and purpose of the Smith’s work.”

## **Problem-Solving Process**

1. DO NOT READ THE NOTES
2. Read the first sentence of the question
3. Eliminate answer choices that do not achieve the goal
4. Only reference notes if two choices could answer the question



# RHETORICAL SYNTHESIS

- The International Center for the Arts of the Americas (ICAA) is directed by Mari Carmen Ramírez.
- Ramírez oversaw an initiative to create an online archive of historical documents related to the history of Latin American and Latino visual art.
- The ICAA digitized over 10,000 documents, including the writings of Latin American and Latino artists and critics.
- The creation of the archive didn't require historical documents to be removed from their countries of origin.
- Scholars now have more access to these documents.



The student wants to explain an advantage of the ICAA's archive being digital. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- (A) Over 10,000 documents related to the history of Latin American and Latino visual art are part of the ICAA archive.
- (B) By offering online versions of historical documents, the ICAA's archive provides more access to these materials without removing them from their countries of origin.
- (C) Among the historical documents in the ICAA's archive are the writings of Latin American and Latino artists and critics.
- (D) The ICAA's director, Mari Carmen Ramírez, oversaw the creation of an online archive of historical documents related to Latin American and Latino visual art.

# READING COMPREHENSION

Behavioral ecologists Will Wiggins, Sarah Bounds, and Shawn Wilder recently examined the behavior of field-collected and laboratory-reared bold jumping spiders (*Phidippus audax*). They found a positive association between experimental high-protein diets and aggressive behavior in field-collected males and a similar association between experimental high-lipid diets and aggressive behavior in lab-reared males; additionally, field-collected spiders showed a preference for flowers manipulated to display ultraviolet fluorescence, whereas lab-reared spiders showed a preference for flowers dyed with red food coloring that was not fluorescent. Wiggins, Bounds, and Wilder therefore concluded that \_\_\_\_\_



Which choice most logically completes the text?

- (A) rearing conditions likely affect the responses of bold jumping spiders to experimental stimuli.
- (B) being raised in a laboratory setting reduces aggression among male bold jumping spiders.
- (C) laboratory settings are more suitable for studying bold jumping spiders' diets than their flower preferences.
- (D) experiments involving bold jumping spiders should make use of lab-reared individuals.

# READING COMPREHENSION



Some ethicists hold that the moral goodness of an individual's actions depends solely on whether the actions themselves are good, irrespective of the context in which they are carried out. Philosopher L. Sebastian Purcell has shown that surviving works of Aztec (Nahua) philosophy express a very different view. Purcell reveals that these works posit an ethical system in which an individual's actions are judged in light of how well they accord with the individual's role in society and how well they contribute to the community. To the extent that these works are representative of Aztec thought, Purcell's analysis suggests that \_\_\_\_\_



Which choice most logically completes the text?

- (A) the Aztecs would have disputed the idea that the morality of an individual's actions can be assessed by appealing to standards of behavior that are independent of the individual's social circumstances.
- (B) the Aztecs would not have accepted the notion that the morality of an individual's actions can be fairly evaluated by people who do not live in the same society as that individual.
- (C) actions by members of Aztec society who contributed a great deal to their community could be judged as morally good even if those actions were inconsistent with behaviors the Aztecs regarded as good in all contexts.
- (D) similar actions performed by people in different social roles in Aztec society would have been regarded as morally equivalent unless those actions led to different outcomes for the community.

# READING COMPREHENSION

The following text is adapted from Herman Melville's 1855 novel *Israel Potter*. Israel is a young man wandering through New England during the late eighteenth century.

He hired himself out for three months; at the end of that time to receive for his wages two hundred acres of land lying in New Hampshire. [...] His employer proving false to the contract in the matter of the land, and there being no law in the country to force him to fulfil it, Israel—who, however brave-hearted, and even much of a dare-devil upon a pinch, seems nevertheless to have evinced, throughout many parts of his career, a singular patience and mildness—was obliged to look round for other means of livelihood than clearing out a farm for himself in the wilderness.

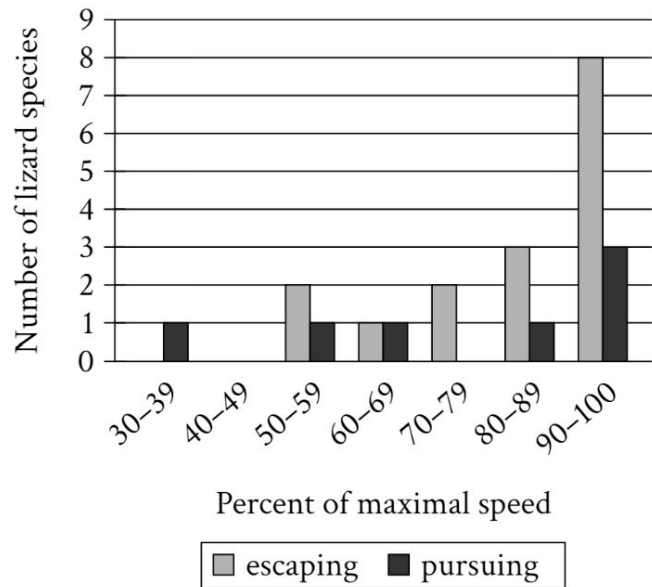


Which choice best describes the function of the underlined portion in the text as a whole?

- (A) It implies that Israel treasures a particular characteristic of his personality when that characteristic should usually be regarded as a flaw.
- (B) It suggests that if not for a certain aspect of his character, Israel might not have been as easily thwarted in his ambition to establish a farm.
- (C) It shows why Israel would not have been able to undertake the enormous amount of labor necessary to run a farm even if he had owned the necessary property.
- (D) It explains why, when the situation requires it, Israel is able to undertake courageous acts that others would generally avoid.

# READING COMPREHENSION

Percent of Maximal Speed Used When Pursuing Prey or Escaping Predators



It may seem that the optimal strategy for an animal pursuing prey or escaping predators is to move at maximal speed, but the energy expense of exploiting full speed capacity can disfavor such a strategy even in escape contexts, as evidenced by the fact that \_\_\_\_\_

12

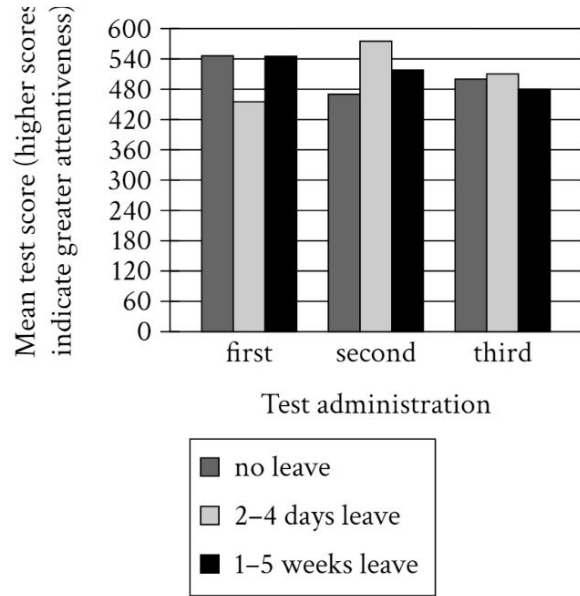
Mark for Review



Which choice most effectively uses data from the graph to complete the text?

- (A) most lizard species use about the same percentage of their maximal speed when escaping predation as they do when pursuing prey.
- (B) multiple lizard species move at an average of less than 90% of their maximal speed while escaping predation.
- (C) more lizard species use, on average, 90%–100% of their maximal speed while escaping predation than use any other percentage of their maximal speed.
- (D) at least 4 lizard species use, on average, less than 100% of their maximal speed while pursuing prey.

# READING COMPREHENSION



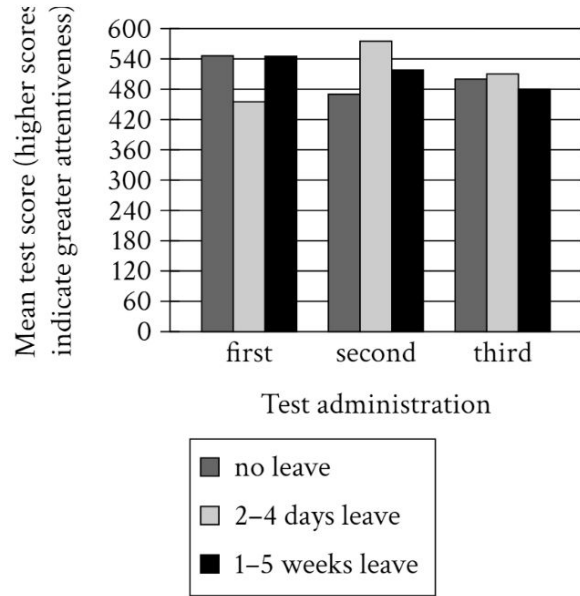
To investigate potential cognitive benefits of taking leave from work, psychologist Jan Packer and colleagues conducted a six-month study of Australian university staff members who took no leave from work during the study, took 2-4 days of leave, or took 1-5 weeks of leave. Tests of attentiveness were administered to participants three times during the study: at random for the no-leave staff, and for the rest, one week before their leave, one week following their return to work, and one week after the second test administration. After analyzing the results, the researchers concluded that longer leave times might not confer a greater cognitive benefit than shorter leave times do.



Which choice best describes data from the graph that support the researchers' conclusion?

- (A) In the second test administration, participants who took 2-4 days of leave had higher average attentiveness scores than did those who took no leave, but in the third test administration, those who took no leave had higher average scores than those who took 1-5 weeks of leave.
- (B) In the first test administration, participants who took 2-4 days of leave had lower average attentiveness scores than did those who took 1-5 weeks of leave and those who took no leave.
- (C) In both the second and third test administrations, participants who took 2-4 days of leave had higher average attentiveness scores than did participants who took 1-5 weeks of leave.
- (D) In the second and third test administrations, participants who took 2-4 days of leave had higher average attentiveness scores than did those who took no leave.

# READING COMPREHENSION



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In both the second and third test administrations, participants who took 2–4 days of leave had higher average attentiveness scores than did participants who took 1–5 weeks of leave.

**(D)** In the second and third test administrations, participants who took 2–4 days of leave had higher average attentiveness scores than did those who took no leave.

# PRONOUNS: IT'S VS ITS VS THEIR

- It's = It is
- Its = Possessive
- Its' = NOT A WORD
  
- They're = They are
- Their = Possessive
- There = Place (“that car over there”)



# APOSTROPHE PROCESS

Apostrophes are used to show possession/ownership over the next word (or 2-3 words later)

1. Consider each word with an apostrophe separately
2. If the word is possessing/owning the next word (or a word very closely afterwards), then the word needs an apostrophe
  - a. If possessive, put apostrophe before the s for singular noun and after the s for a plural noun
3. If the word is NOT possessive, it should NOT have an apostrophe

# PRONOUNS: IT'S VS ITS VS THEIR

The soundtrack to Mira Nair's 1991 film *Mississippi Masala* expressively captures the clashing of cultures that happens when \_\_\_\_\_ (a young Indian woman from Uganda and a young African American man from Mississippi) meet. Featured throughout the film are songs from Uganda's Afrigo Band, the Indian composer L. Subramaniam, and the Mississippi blues musician Sam Chatmon.

Which choice completes the text so that it conforms to the conventions of Standard English?

(A) it's two protagonists

(B) its two protagonist's

(C) it's two protagonist's

(D) its two protagonists

# PUNCTUATION RULES

- Commas are the most common punctuation tested
  - These often come in pairs around interruptions
- Semicolons are identical to periods
  - Need an independent clause before and after
  - \*\*Can eliminate semicolon and period if both are options with identical wording\*\*
- Colons introduce or reveal
  - Need an independent clause before; after can be anything
- Dashes act like parentheses
  - These signal interruptions or side comments
- Consider the no-punctuation options

# PUNCTUATION RULES



On March 23, 2021, a gust of wind wreaked havoc on global trade. *Ever Given*, an international shipping container vessel, became lodged in Egypt's Suez Canal, a major shipping route between Europe and Asia. The vessel took six days to \_\_\_\_\_ it's as heavy as two thousand blue whales when fully loaded.



Which choice completes the text so that it conforms to the conventions of Standard English?

(A) dislodge in part due to its sheer size,

(B) dislodge, in part due to its sheer size:

(C) dislodge, in part due to its sheer size,

(D) dislodge, in part, due to its sheer size

# PUNCTUATION RULES



For thousands of years, humans have used domesticated goats (*Capra hircus*) to clear land of unwanted vegetation. When it comes to their diets, goats are notoriously \_\_\_\_\_ they will devour all kinds of shrubs and weeds, leaving virtually no part of any plant unconsumed.



Which choice completes the text so that it conforms to the conventions of Standard English?

(A) indiscriminate and

(B) indiscriminate,

(C) indiscriminate

(D) indiscriminate:

# MODIFIER PLACEMENT

- Modifiers are words or phrases that describe other words in a sentence
  - a. Most commonly adjectives and adverbs
  - b. But can be verb phrases (especially -ing verbs)
- Modifiers **MUST** come next to the word they modify

## **Problem-Solving Process**

1. Notice all 4 choices are the same wording but rearranged
2. Find the modifier
  - b. Usually it's the introduction to the sentence
  - c. Usually it's an -ing verb
3. Ask who or what the modifier is describing
4. Choose the answer that puts that word first

# MODIFIER PLACEMENT



Woven from recycled yarn and hand tufted using a carpet weaving technique passed down by the artist's Turkish grandmother, \_\_\_\_\_ so lush and tactilely inviting that you are tempted to reach out and touch them.



WHICH CHOICE COMPLETES THE TEXT SO THAT IT CONFORMS TO THE CONVENTIONS OF Standard English?

- (A) the topological tapestries of Argentine textile artist Alexandra Kehayoglou are
- (B) the Argentine textile artist Alexandra Kehayoglou creates topological tapestries that are
- (C) when she creates her topological tapestries, Argentine textile artist Alexandra Kehayoglou makes them
- (D) Alexandra Kehayoglou is an Argentine textile artist whose topological tapestries are

# SUBJECT-VERB AGREEMENT

- ~2 questions per test
- All 4 choices will be the same verb but different conjugations of it
  - e.g., **was** vs **were** vs **has been** vs **was being**
- On SAT, 60% of these questions test subject-verb agreement, while other 40% test tense



# SUBJECT-VERB AGREEMENT

1. Recognize that all 4 choices are different conjugations of the same verb
2. Find/highlight the subject
  - a. Earliest noun in the sentence after introduction
3. Remove all other words and test subject with choices
4. If unsure, replace singular subject with “it” and plural subject with “they” and sound out
5. If SAT is testing for tense instead, look for time clues in sentence and surrounding sentences

# SUBJECT-VERB AGREEMENT

In a painting titled “The Milkmaid” by Johannes Vermeer, the artist prominently features a bread basket, milk pitcher, and bowl. Such quotidian objects, depicted in exquisite detail by Vermeer, a painter celebrated for his naturalism, \_\_\_\_\_ the daily minutiae of a seventeenth-century Dutch household.



Which choice completes the text so that it conforms to the conventions of Standard English?

(A) was revealing

(B) has revealed

(C) reveals

(D) reveal

# SUBJECT-VERB AGREEMENT

In her 1983 book *The Managed Heart: Commercialization of Human Feeling*, sociologist Arlie Russell Hochschild first explored at length her conception of a “sociology of emotions”—the idea that the various cultural and ideological frameworks a person has internalized (class, gender, political affiliation, etc.) \_\_\_\_\_ each emotional reaction that person has within a situation.



Which choice completes the text so that it conforms to the conventions of Standard English?

(A) underlies

(B) is underlying

(C) underlie

(D) has been underlying

# VOCABULARY AND TRANSITIONS

- 10-12 questions (~19-22% of test)
- Read full selection
- Pay attention to transition words already in the text and negatives (e.g., “however,” “although,” “while,” “but,” “not,” “don’t,” “didn’t”)
- Think of root words and prefixes/suffixes
- Identify the connotation(s) of the text
- Process of elimination and matching connotation are vital for these

# VOCABULARY AND TRANSITIONS



According to a team of neuroeconomists from the University of Zurich, ease of decision making may be linked to communication between two brain regions, the prefrontal cortex and the parietal cortex. Individuals tend to be more decisive if the information flow between the regions is intensified, whereas they make choices more slowly when information flow is \_\_\_\_\_.



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

(A) reduced

(B) evaluated

(C) determined

(D) acquired

# VOCABULARY AND TRANSITIONS

A turtle shell appears external to the animal, protecting its body like armor. \_\_\_\_\_ the shell is often incorrectly assumed to be an exoskeleton, a rigid outer casing like that of a crustacean or an insect, when in fact it is an endoskeleton, a part of the turtle's internal bone structure, more akin to a spine or a pair of ribs.

Which choice completes the text with the most logical transition?

(A) That being said,

(B) However,

(C) For instance,

(D) Hence,

# VOCABULARY AND TRANSITIONS

While recent scholarship has undermined claims that the works of twelfth-century Islamic philosopher Ibn Rushd were \_\_\_\_\_ other Muslim philosophers of his time, it is indisputable that his location in the Muslim-ruled area of what is now Spain meant that his works were primarily available thousands of miles west of the era's center of Islamic thought.

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

(A) controversial among

(B) antagonistic toward

(C) imitated by

(D) inconsequential to

# TEST 5 MATH QUESTIONS

Select questions from both Math modules



# PROBLEM-SOLVING AND DATA ANALYSIS

| Nest | Number of eggs |
|------|----------------|
| A    | 149            |
| B    | 144            |
| C    | 148            |
| D    | 136            |
| E    | 139            |

A sixth nest with 121 eggs is added to create a new data set. Which of the following correctly compares the means of the two data sets?

(A) The mean of the original data set is greater than the mean of the new data set.

(B) The mean of the original data set is less than the mean of the new data set.

(C) The means of both data sets are equal.

(D) There is not enough information to compare the means.

# PROBLEM-SOLVING AND DATA ANALYSIS

23, 27, 27, 32, 35, 36, 52

What is the range of the 7 scores shown?

# PROBLEM-SOLVING AND DATA ANALYSIS

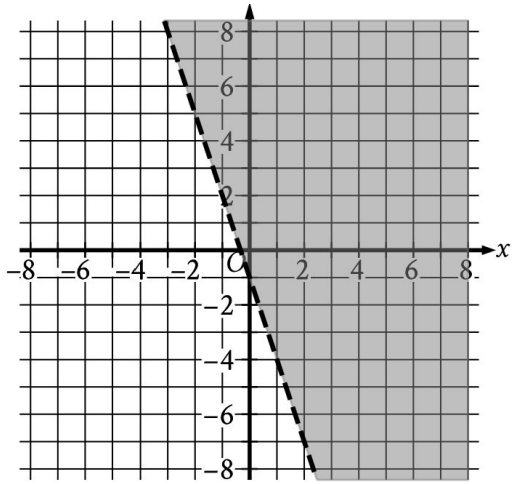
A company that produces socks wants to estimate the percent of the socks produced in a typical week that are defective. A random sample of 310 socks produced in a certain week were inspected. Based on the sample, it is estimated that 12% of all socks produced by the company in this week are defective, with an associated margin of error of 3.62%. Based on the estimate and associated margin of error, which of the following is the most appropriate conclusion about all socks produced by the company during this week?

- A. 3.62% of the socks are defective.
- B. It is plausible that between 8.38% and 15.62% of the socks are defective.
- C. 12% of the socks are defective.
- D. It is plausible that more than 15.62% of the socks are defective.

# USING DESMOS

1. Solving for  $x$ 
  - Note: if using Desmos to solve for  $x$  in an equation with no “ $y$ ,” Desmos displays the solutions as vertical lines
2. Systems of equations
3. Finding maximum/minimum values
4. Finding factors of a polynomial
5. Finding equivalent expressions
6. Translating graphs
7. Inequalities

# USING DESMOS



The shaded region shown represents the solutions to which inequality?

(A)  $y < -1 + 3x$

(B)  $y < -1 - 3x$

(C)  $y > -1 + 3x$

(D)  $y > -1 - 3x$

# USING DESMOS

$$(d - 30)(d + 30) - 7 = -7$$

What is a solution to the given equation?

# USING DESMOS

$$|x - 9| + 45 = 63$$

What is the sum of the solutions to the given equation?

# USING DESMOS

$$y - 9x = 13$$

$$5x = 2y$$

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

(A)  $(\frac{5}{2}, 1)$

(B)  $(1, \frac{2}{5})$

(C)  $(-2, -5)$

(D)  $(-5, -2)$



# USING DESMOS

$$y = x + 9$$

$$y = x^2 + 16x + 63$$

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

(A)  $-6$

(B)  $7$

(C)  $9$

(D)  $63$

# USING DESMOS

How many solutions does the equation  $12(x - 3) = -3(x + 12)$  have?

(A) Exactly one

(B) Exactly two

(C) Infinitely many

(D) Zero

# USING DESMOS

Which quadratic equation has no real solutions?

(A)  $x^2 + 14x - 49 = 0$

(B)  $x^2 - 14x + 49 = 0$

(C)  $5x^2 - 14x - 49 = 0$

(D)  $5x^2 - 14x + 49 = 0$

# USING DESMOS

Two customers purchased the same kind of bread and eggs at a store. The first customer paid 12.45 dollars for 1 loaf of bread and 2 dozen eggs. The second customer paid 19.42 dollars for 4 loaves of bread and 1 dozen eggs. What is the cost, in dollars, of 1 dozen eggs?

(A) 3.77

(B) 3.88

(C) 4.15

(D) 4.34

# USING DESMOS

$$y = 18$$

$$y = -3(x - 18)^2 + 15$$

If the given equations are graphed in the  $xy$ -plane, at how many points do the graphs of the equations intersect?

(A) Exactly one

(B) Exactly two

(C) Infinitely many

(D) Zero

# USING DESMOS

$$(x + 4)^2 + (y - 19)^2 = 121$$

The graph of the given equation is a circle in the  $xy$ -plane. The point  $(a, b)$  lies on the circle. Which of the following is a possible value for  $a$ ?

(A)  $-16$

(B)  $-14$

(C)  $11$

(D)  $19$

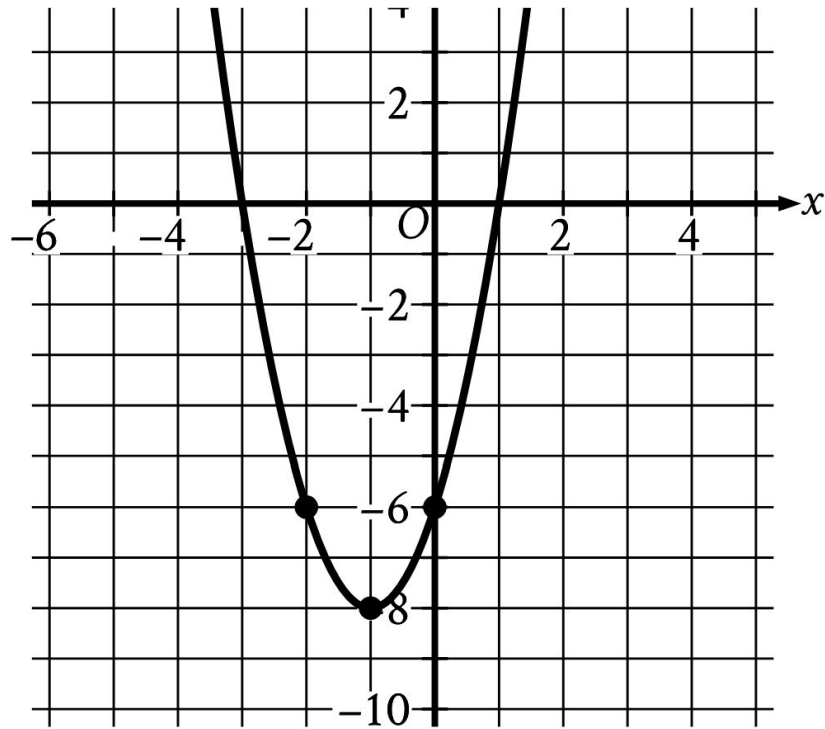
# USING DESMOS

$$6 + 7r = pw$$

$$7r - 5w = 5w + 11$$

In the given system of equations,  $p$  is a constant. If the system has no solution, what is the value of  $p$ ?

# USING DESMOS



The graph of  $y = 2x^2 + bx + c$  is shown, where  $b$  and  $c$  are constants. What is the value of  $bc$ ?



# USING DESMOS

$$f(x) = (1.84)^{\frac{x}{4}}$$

The function  $f$  is defined by the given equation. The equation can be rewritten as  $f(x) = \left(1 + \frac{p}{100}\right)^x$ , where  $p$  is a constant. Which of the following is closest to the value of  $p$ ?

(A) 16

(B) 21

(C) 46

(D) 96

# USING DESMOS

The function  $f$  is defined by  $f(x) = a\sqrt{x+b}$ , where  $a$  and  $b$  are constants. In the  $xy$ -plane, the graph of  $y = f(x)$  passes through the point  $(-24, 0)$ , and  $f(24) < 0$ . Which of the following must be true?

(A)  $f(0) = 24$

(B)  $f(0) = -24$

(C)  $a > b$

(D)  $a < b$

# DRAW

The length of each edge of a box is **29** inches. Each side of the box is in the shape of a square. The box does not have a lid. What is the exterior surface area, in square inches, of this box without a lid?

# DRAW

In the  $xy$ -plane, a circle has center  $C$  with coordinates  $(h, k)$ . Points  $A$  and  $B$  lie on the circle. Point  $A$  has coordinates  $(h + 1, k + \sqrt{102})$ , and  $\angle ACB$  is a right angle. What is the length of  $\overline{AB}$ ?

(A)  $\sqrt{206}$

(B)  $2\sqrt{102}$

(C)  $103\sqrt{2}$

(D)  $103\sqrt{3}$

# PLUGGING POINTS IN

1. When asked to match an equation with a series of points, a data table, or a word problem
2. When asked to match a graph to an equation

# PLUGGING POINTS IN

In the  $xy$ -plane, line  $t$  passes through the points  $(0, 9)$  and  $(1, 17)$ . Which equation defines line  $t$ ?

(A)  $y = \frac{1}{8}x + 9$

(B)  $y = x + \frac{1}{8}$

(C)  $y = x + 8$

(D)  $y = 8x + 9$

# PLUGGING POINTS IN

For the linear function  $h$ , the graph of  $y = h(x)$  in the  $xy$ -plane passes through the points  $(7, 21)$  and  $(9, 25)$ . Which equation defines  $h$ ?

**(A)**  $h(x) = \frac{1}{2}x - \frac{7}{2}$

**(B)**  $h(x) = 2x + 7$

**(C)**  $h(x) = 7x + 21$

**(D)**  $h(x) = 9x + 25$

# USE ALL THE NUMBERS

A truck can haul a maximum weight of 5,630 pounds. During one trip, the truck will be used to haul a 190-pound piece of equipment as well as several crates. Some of these crates weigh 25 pounds each and the others weigh 62 pounds each. Which inequality represents the possible combinations of the number of 25-pound crates,  $x$ , and the number of 62-pound crates,  $y$ , the truck can haul during one trip if only the piece of equipment and the crates are being hauled?

(A)  $25x + 62y \leq 5,440$

(B)  $25x + 62y \geq 5,440$

(C)  $62x + 25y \leq 5,630$

(D)  $62x + 25y \geq 5,630$



# DESMOS FUNCTIONS

What is the value of  $\tan \frac{92\pi}{3}$ ?

(A)  $-\sqrt{3}$

(B)  $-\frac{\sqrt{3}}{3}$

(C)  $\frac{\sqrt{3}}{3}$

(D)  $\sqrt{3}$

# FORMULA SHEET

A right triangle has legs with lengths of 11 centimeters and 9 centimeters. What is the length of this triangle's hypotenuse, in centimeters?


(A)  $\sqrt{40}$

(B)  $\sqrt{202}$

(C) 20

(D) 202

# FORMULA SHEET

80% 



Calculator

$x^2$

Reference

⋮

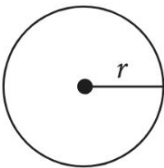
More



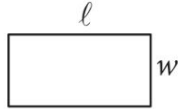
meters and 9 centimeters.

n centimeters?

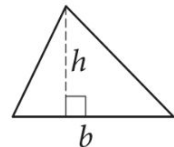
# FORMULA SHEET



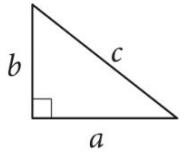
$A = \pi r^2$   
 $C = 2\pi r$



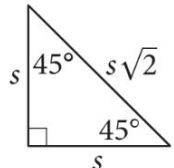
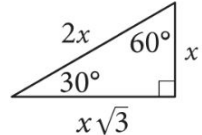
$A = \ell w$



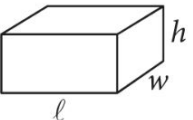
$A = \frac{1}{2}bh$



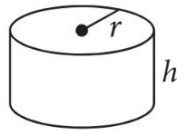
$c^2 = a^2 + b^2$



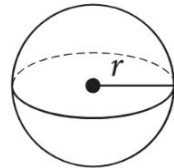
**Special Right Triangles**



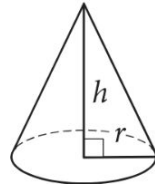
$V = \ell wh$



$V = \pi r^2 h$



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



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



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

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

The number of radians of arc in a circle is  $2\pi$ .

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

# DELIBERATELY CONFUSING

For an electric field passing through a flat surface perpendicular to it, the electric flux of the electric field through the surface is the product of the electric field's strength and the area of the surface. A certain flat surface consists of two adjacent squares, where the side length, in meters, of the larger square is **3** times the side length, in meters, of the smaller square. An electric field with strength **29.00** volts per meter passes uniformly through this surface, which is perpendicular to the electric field. If the total electric flux of the electric field through this surface is **4,640** volts · meters, what is the electric flux, in volts · meters, of the electric field through the larger square?

**PART II**

# **SAT REVIEW**

# SAT/PSAT ESSENTIAL STATS, II

- Second module of both sections is adaptive
  - You will face either an easier or a harder set of questions, depending on performance on Module 1
    - ~470-530 per section is cut off between easier and harder second module
  - Getting the harder second module means your score potential is higher
  - Module 2 may present timing difficulties
  - Do as well as you can no matter what
    - Don't try to get the easy second module, or your score will be lower

# SAT/PSAT ESSENTIAL STATS, III

- Scored out of 1600 points
  - Average score: 1060
- 89% of test is multiple choice
  - All multiple-choice questions have 4 answer choices
  - There is always only 1 correct answer
- ~11 math questions are student-produced response
  - Sometimes, a range of answers can be correct
  - These can have a negative answer
  - Answers accept up to 5 characters



# 5 SIMPLE STRATEGIES FOR SAT

1. \*Practice! There are 4 official practice tests available\*
  - Khan Academy has free, official SAT-prep course
2. USE DESMOS AS MUCH AS POSSIBLE!
3. Never leave a question blank
4. Guess on difficult questions, flagging them to return with extra time
5. Instead of always searching for the right answer, eliminate 3 wrong answers

# TOP READING STRATEGIES

1. Do vocabulary first, then skip to grammar (~#15)
  - Get quick/easy questions out of the way first
2. Read question before reading text
3. Eliminate wrong answers
  - Extreme answer choices, ones that draw too far of a conclusion, ones that are the opposite meaning
4. Pay attention to transition words and negatives
5. Pay attention to connotation
6. Never leave any question unanswered

**PART III**

**MATH**

# SAT MATH TIPS

1. Use Desmos as much as possible
2. Guess on difficult questions, and flag them to return
3. Focus on what you DO know, not what is confusing you
4. If you don't see how to solve the entire problem, take one step you know you can take
5. If a word problem gives you a number, you are almost certainly going to use that number
6. Pay special attention to negatives in problems, as this is the most common source of errors
7.  $y=mx+b$  is the most important equation for the test

# TOP MATH STRATEGIES

1. Using Desmos
2. Guessing and checking
3. Plugging numbers in

**AGAIN,  
THANK YOU!**