## SAT WORKSHOP

**BOBBY KENNEY** 

# FIRST, THANK YOU!

#### LOGISTICS

- End @ 11
- Devices
- Free practice test Saturday 3/30 @ 9am
- (Final) Session 3 Saturday 4/13 @ 9am

#### **GET THESE SLIDES**

Get today's and last week's slides:

experttestprep.com/columbine

#### TODAY'S GOALS

- Practice Reading and Writing problems
  - Rhetorical Synthesis (from last week)
  - Pronouns
  - Subject-verb agreement
  - Modifier placement
  - Punctuation rules
  - Vocab & Transitions
- Practice Math strategies
  - Continue using Desmos
  - Plug in answer choices to the question
  - Plug in your own numbers to the question

## SAT REVIEW

## SAT/PSAT ESSENTIAL STATS

- 2 sections with 2 modules each
  - Reading & Writing
    - Two 32-minute modules with 27 questions each (54 total questions)
    - Short, independent passages with 1 question each
  - (10-minute break)
  - Math
    - Two 35-minute modules with 22 questions each (44 total questions)
    - YOU CAN USE DESMOS!!!
  - Totals: 98 questions in 2 hr 14 min

## 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

# READING AND WRITING

#### ORDER OF QUESTIONS

#### Questions always go in this order:

- 1. Vocabulary (2-4 questions)
- 2. Reading comprehension (10-12 questions)
  - 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!

#### 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

# SPECIFIC READING QUESTIONS

- 1. Rhetorical synthesis
- 2. Grammar
  - Subject-verb agreement
  - Modifier placement
  - Punctuation rules
- 3. Vocabulary and transitions
- 4. Reading comprehension (final session)

#### 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
- Eliminate answer choices that do not achieve the goal
- 4. Only reference notes if two choices could answer the question

While researching a topic, a student has taken the following notes:

- The Seikan Tunnel is a rail tunnel in Japan.
- It connects the island of Honshu to the island of Hokkaido.
- It is roughly 33 miles long.
- The Channel Tunnel is a rail tunnel in Europe.
- It connects Folkestone, England, to Coquelles, France.
- It is about 31 miles long.

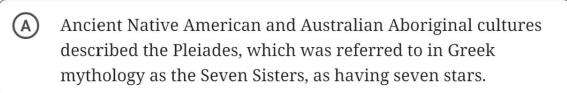
The student wants to compare the lengths of the two rail tunnels. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A Some of the world's rail tunnels, including one tunnel that extends from Folkestone, England, to Coquelles, France, are longer than 30 miles.
- (B) The Seikan Tunnel is roughly 33 miles long, while the slightly shorter Channel Tunnel is about 31 miles long.
- The Seikan Tunnel, which is roughly 33 miles long, connects the Japanese islands of Honshu and Hokkaido.
- D Both the Seikan Tunnel, which is located in Japan, and the Channel Tunnel, which is located in Europe, are examples of rail tunnels.

student has taken the following notes:

- Ancient Native American and Australian Aboriginal cultures described the Pleiades star cluster as having seven stars.
- It was referred to as the Seven Sisters in the mythology of ancient Greece.
- Today, the cluster appears to have only six stars.
- Two of the stars have moved so close together that they now appear as one.

The student wants to specify the reason the Pleiades' appearance changed. Which choice most effectively uses relevant information from the notes to accomplish this goal?



B Although once referred to as the Seven Sisters, the Pleiades appears to have only six stars today.

In the time since ancient cultures described the Pleiades as having seven stars, two of the cluster's stars have moved so close together that they now appear as one.

D The Pleiades has seven stars, but two are so close together that they appear to be a single star.

- The Philadelphia and Lancaster Turnpike was a road built between 1792 and 1794.
  It was the first private turnpike in the United States.
- It connected the cities of Philadelphia and Lancaster in the state of Pennsylvania.
- It was sixty-two miles long.

While researching a topic, a student has taken the following notes:

effectively uses relevant information from the notes to accomplish this goal?

The student wants to emphasize the distance covered by the Philadelphia and Lancaster Turnpike. Which choice most

- A. The sixty-two-mile-long Philadelphia and Lancaster Turnpike connected the Pennsylvania cities of Philadelphia and Lancaster.
- B. The Philadelphia and Lancaster Turnpike was the first private turnpike in the United States.
- C. The Philadelphia and Lancaster Turnpike, which connected two Pennsylvania cities, was built between 1792 and 1794.
- D. A historic Pennsylvania road, the Philadelphia and Lancaster Turnpike was completed in 1794.

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The student wants to emphasize the distance covered by the Philadelphia and Lancaster Turnpike. Which choice most effectively uses relevant information from the notes to accomplish this goal?

A. The sixty-two-mile-long Philadelphia and Lancaster Turnpike connected the Pennsylvania cities of Philadelphia

- Lancaster.
- B. The Philadelphia and Lancaster Turnpike was the first private turnpike in the United States.
- C. The Philadelphia and Lancaster Turnpike, which connected two Pennsylvania cities, was built between 1792 and 1794.

D. A historic Pennsylvania road, the Philadelphia and Lancaster Turnpike was completed in 1794.

- ~2 questions per test
- Examples of pronouns:
  - o It
  - They
  - You
  - We
  - He or she
  - One
  - This
  - These

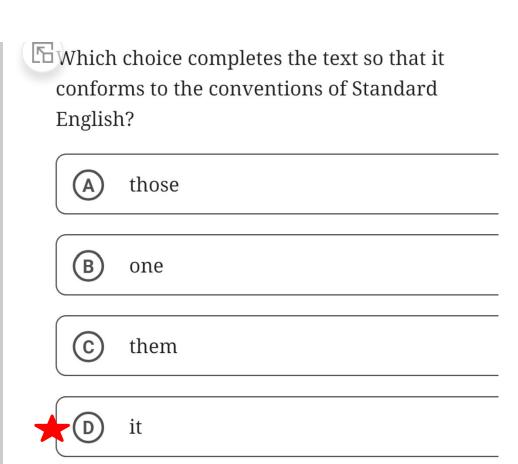
- 1. Notice all 4 choices are pronouns
- 2. Find/highlight the pronoun's antecedent
  - a. The "antecedent" is the noun the pronoun stands for
  - Antecedent can only be in the sentence you are in or in the previous sentence
- 3. Choose the pronoun that matches in kind and number
  - a. e.g., if antecedent is "houses," then pronoun could be "they" but not "it"

7

The violins handmade in the seventeeth century by Italian craftsman Antonio Stradivari have been celebrated as some of the finest in the world. In close collaboration with musicians, Stradivari introduced changes to the shape of a traditional violin, flattening some of the instrument's curves and making lighter overall.

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

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In 1930, Japanese American artist Chiura Obata depicted the natural beauty of Yosemite National Park in two memorable woodcuts: Evening at Carl Inn and Lake Basin in the High Sierra. In 2019, \_\_\_\_\_ exhibited alongside 150 of Obata's other works in a singleartist show at the Smithsonian American Art Museum.

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

A it was

**B** they were

c this was

**D** some were

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Which choice completes the text so that it conforms to the conventions of Standard English? it was they were this was

some were

this perpetually dark environment. The bacteria have

evolved to use hydrogen sulfide instead of sunlight for

the energy that drives their metabolic processes, and

necessary to support 4 him or her. Seawater seeping

hydrothermal venting is the source of the chemical soup

A) NO CHANGE one.

C) them.

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one.

them.

- It's = It is
- Its = possessive
- Its' = NOT A WORD

- They're = They are
- Their = Possessive
- There = Place ("that car over there")

donors. At 23 it's best, the system can give creators

direct access to millions of potential backers.

23

A) NO CHANGE

B) its

C) its'

their

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23

A) NO CHANGE

 $\star$  B) its

C) its'

their

As the parade winds its way through Chinatown, the

music crescendos, and the lion dance reaches 20 it's

climax with the "plucking of the greens." Approaching a

20

A) NO CHANGE

its

C) there

their

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C) there

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devour the kelp. [4] Like 29 their terrestrial plant

cousins, kelp removes carbon dioxide from the

atmosphere, turning it into sugar fuel through

photosynthesis, and releases oxygen back into the air.

29

A) NO CHANGE

B) they're

its

it's

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photosynthesis, and releases oxygen back into the air.

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B) they're



29

#### **SUBJECT-VERB AGREEMENT**

- ~2 questions per test
- All 4 choices will be the same verb but different conjugations of it
  - o 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

- 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

Narratives such as the heroic epic *Beowulf* and the

mournful poem *The Seafarer* has been passed on

**16. F.** NO CHANGE G. were was

by people being conversant for centuries.

16

16

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mournful poem The Seafarer has been passed on

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16. F. NO CHANGE G.★were H. was

that comes to mind. Yet some of the earliest known

works of art, including paintings and drawings tens of

thousands of years old found on cave walls in Spain and

France, 36 portrays animals. Nor has artistice 36

A) NO CHANGE

portraying

C) portray

D) has portrayed

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works of art, including paintings and drawings tens of

thousands of years old found on cave walls in Spain and

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- A) NO CHANGE
- B) portraying
- C) portray
  - D) has portrayed

Objects ranging from the Kikkoman soy sauce bottle to the Yamaha VMAX motorcycle to the Komachi bullet train \_\_\_\_\_ designed by twentieth-century industrial designer Kenji Ekuan.

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

A. was

B. is

C. has been

D. were

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During the American Civil War, Thomas Morris Chester braved the front lines as a war correspondent for the *Philadelphia Press*. Amplifying the voices and experiences of Black soldiers \_\_\_\_\_ of particular importance to Chester, who later became an activist and lawyer during the postwar Reconstruction period.

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

- A. were
- B. have been
- C. are
- D. was

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- 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
  - a. Usually it's the introduction to the sentence
  - b. Usually it's an -ing verb
- 3. Ask who or what the modifier is describing
- 4. Choose the answer that puts that word first

In assessing the films of Japanese director Akira Kurosawa, \_\_\_\_\_ have missed his equally deep engagement with Japanese artistic traditions such as Noh theater.

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

- A. many critics have focused on Kurosawa's use of Western literary sources but
- B. Kurosawa's use of Western literary sources has been the focus of many critics, who
- C. there are many critics who have focused on Kurosawa's use of Western literary sources, but they
- D. the focus of many critics has been on Kurosawa's use of Western literary sources; they

In assessing the films of Japanese director Akira Kurosawa, \_\_\_\_\_ have missed his equally deep engagement with Japanese artistic traditions such as Noh theater.

Who or what is "assessing the films"? Put that word first

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Same words but rearranged

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- C. there are many critics who have focused on Kurosawa's use of Western literary sources, but they
- D. the focus of many critics has been on Kurosawa's use of Western literary sources; they

"Critics" were assessing the films and therefore must be the first word

Despite being cheap, versatile, and easy to produce, \_\_\_\_\_ they are made from nonrenewable petroleum, and most do not biodegrade in landfills.

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

- A) there are two problems associated with commercial plastics:
- B) two problems are associated with commercial plastics:
- C) commercial plastics' two associated problems are that
- D) commercial plastics have two associated problems:

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"Commercial plastics" are "cheap, versatile, and easy to produce" and therefore must come first

In 1453, English King Henry VI became unfit to rule after falling gravely ill. As a result, Parliament appointed Richard, Third Duke of York, who had a strong claim to the English throne, to rule as Lord Protector. Upon recovering two years later, \_\_\_\_\_ forcing an angered Richard from the royal court and precipitating a series of battles later known as the Wars of the Roses.

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

- A. Henry resumed his reign,
- B. the reign of Henry resumed,
- C. Henry's reign resumed,
- D. it was Henry who resumed his reign,

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"Henry" is the one described as "recovering two years later," so his name must be the first word

- 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

Beatrix Potter is perhaps best known for writing and illustrating children's books such as The Tale of Peter Rabbit (1902), but she also dedicated herself to mycology, the study of \_\_\_\_\_ more than 350 paintings of the fungal species she observed in nature and submitting her research on spore germination to the Linnean Society of London.

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

A fungi; producing

**B** fungi. Producing

c fungi producing

**D** fungi, producing

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fungi producing



fungi, producing

As British scientist Peter Whibberley has observed, "the Earth is not a very good timekeeper." Earth's slightly irregular rotation rate means that measurements of time must be periodically adjusted. Specifically, an extra "leap second" (the 86,401st second of the day) is \_\_\_\_\_ time based on the planet's rotation lags a full nine-tenths of a second behind time kept by precise atomic clocks.

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

A added, whenever

(B) added; whenever

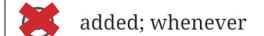
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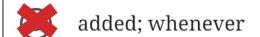


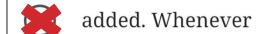
**(D)** added whenever

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









Some members of the US Supreme Court have resisted calls to televise the court's oral arguments, concerned that the participants would be tempted to perform for the cameras (and thus lower the quality of the discourse). \_\_\_\_\_ the justices worry that most viewers would not even watch the full deliberations, only short clips that could be misinterpreted and mischaracterized.

Which choice completes the text with the most logical transition?

A. However,

B. Additionally,

C. In comparison,

D. For example,

Former astronaut Ellen Ochoa says that although she doesn't have a definite idea of when it might happen, she \_\_\_\_\_ that humans will someday need to be able to live in other environments than those found on Earth. This conjecture informs her interest in future research missions to the moon.

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

A. demands

B. speculates

C. doubts

D. establishes

- 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

Researchers Helena Mihaljević-Brandt, Lucía Santamaría, and Marco Tullney report that while mathematicians may have traditionally worked alone, evidence points to a shift in the opposite direction. \_\_\_\_\_ mathematicians are choosing to collaborate with their peers—a trend illustrated by a rise in the number of mathematics publications credited to multiple authors.

Which choice completes the text with the most logical transition?

- A) Similarly,
- B) For this reason,
- C) Furthermore,
- D) Increasingly,

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Following the principles of community-based participatory research, tribal nations and research institutions are equal partners in health studies conducted on reservations. A collaboration between the Crow Tribe and Montana State University \_\_\_\_\_ this model: tribal citizens worked alongside scientists to design the methodology and continue to assist in data collection.

- A. circumvents
- B. eclipses
- C. fabricates
- D. exemplifies

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In studying the use of external stimuli to reduce the itching sensation caused by an allergic histamine response, Louise Ward and colleagues found that while harmless applications of vibration or warming can provide a temporary distraction, such \_\_\_\_\_ stimuli actually offer less relief than a stimulus that seems less benign, like a mild electric shock.

- A. deceptive
- B. innocuous
- C. novel
- D. impractical

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The artisans of the Igun Eronmwon guild in Benin City, Nigeria,
typically the bronze- and brass-casting techniques that have
been passed down through their families since the thirteenth century
but they don't strictly observe every tradition; for example, guild
members now use air-conditioning motors instead of handheld
bellows to help heat their forges.
Mily chains completes the text with the most legical and precise

- (A) experiment with
- B adhere to
- © improve on
- (D) grapple with

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members now use air-conditioning motors instead of handheld
bellows to help heat their forges.
Which choice completes the text with the most logical and precise
word or phrase?
(A) experiment with
B adhere to
© improve on
(D) grapple with

#### **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

- 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

$$\frac{55}{m+6} = x$$

What is the positive solution to the given equation?

At how many points do the graphs of the equations y = x + 20 and y = 8x intersect in the xy-plane?

- A. 0
- B. 1
- C. 2
- D. 8

$$6x + 7y = 28$$
$$2x + 2y = 10$$

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

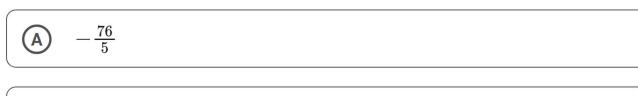
- A. -2
- B. 7
- C. 14
- D. 18

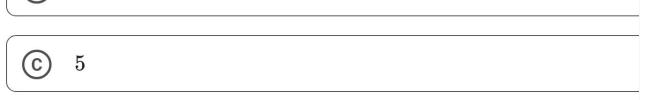
$$f(x) = 4x^2 - 50x + 126$$

The given equation defines the function f. For what value of x does f(x) reach its minimum?

$$y = 76$$
$$y = x^2 - 5$$

The graphs of the given equations in the xy-plane intersect at the point (x,y). What is a possible value of x?







-9

The graph of 9x - 10y = 19 is translated down 4 units in the *xy*-plane. What is the *x*-coordinate of the *x*-intercept of the resulting graph?

$$x(x + 1) - 56 = 4x(x - 7)$$

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

$$\sqrt{\left(x-2\right)^2} = \sqrt{3x+34}$$

What is the smallest solution to the given equation?

$$64x^2 + bx + 25 = 0$$

In the given equation, b is a constant. For which of the following values of b will the equation have more than one real solution?

- A. -91
- B. -80
- C. 5
- D. 40

$$x - 29 = (x - a)(x - 29)$$

Which of the following are solutions to the given equation, where a is a constant and a > 30?

I. a

II. a+1III. 29

I and II only

I and III only

II and III only

I, II, and III

In the xy-plane, a line with equation 2y = c for some constant c intersects a parabola at exactly one point. If the parabola has equation  $y = -2x^2 + 9x$ , what is the value of c?

- 1. Solving for x
  - a. Desmos is often easier for this
- 2. Other algebra problems
- 3. Systems of equations
  - a. E.g., what is the value of x in the solution of the following system of equations?
  - b. System of equation word problems
- 4. Word problems
- 5. Finding equivalent expressions
- 6. Inequalities

The function p is defined by  $p(n) = 7n^3$ . What is the value of n when p(n) is equal to 56?

- A) 2
- B)  $\frac{8}{3}$
- C) 7

O) (C

A company that provides whale-watching tours takes groups of 21 people at a time. The company's revenue is 80 dollars per adult and 60 dollars per child. If the company's revenue for one group consisting of adults and children was 1,440 dollars, how many people in the group were children?

- A) 3
- B) 9
- C) 12
- D) 18

The product of two positive integers is 546. If the first integer is 11 greater than twice the second integer, what is the smaller of the two integers?

- A) 7
- B) 14
- C) 39
- D) 78

A candle is made of 17 ounces of wax. When the candle is burning, the amount of wax in the candle decreases by 1 ounce every 4 hours. If 6 ounces of wax remain in this candle, for how many hours has it been burning?

- A) 3
- B) 6
- C) 24
- D) 44

y > 14

4x + y < 18

The point (x, 53) is a solution to the system of inequalities in the xyplane. Which of the following could be the value of x?





© 5



- When asked to solve for the value of a constant
- 2. When given constants that make using Desmos difficult
- 3. When asked to interpret part of an equation/expression

Square A has side lengths that are 166 times the side lengths of square B. The area of square A is k times the area of square B. What is the value of k?

The population of Greenville increased by 7% from 2015 to 2016. If the 2016 population is k times the 2015 population, what is the value of k?

- A) 0.07
- B) 0.7
- C) 1.07
- D) 1.7

A window repair specialist charges \$220 for the first two hours of repair plus an hourly fee for each additional hour. The total cost for 5 hours of repair is \$400. Which function f gives the total cost, in dollars, for x hours of repair, where  $x \ge 2$ ?

A. 
$$f(x) = 60x + 100$$

B. 
$$f(x) = 60x + 220$$

C. 
$$f(x) = 80x$$

D. 
$$f(x) = 80x + 220$$

The first term of a sequence is 9. Each term after the first is 4 times the preceding term. If w represents the nth term of the sequence, which equation gives w in terms of n?

$$\bigcirc$$
  $w=9(4^n)$ 

# AGAIN, THANK YOU!