

DECONSTRUCTION OF NOVEMBER 2023 DSAT EXAM

[Vocabulary-in Context Questions {First 4-6 Questions}, Reading Comprehension Questions {Next 10-12 Questions}, Grammar Questions {10-12 Questions} go directly to the question. Student Note Questions {Final 2-6 Questions} read the actual question then find answers inside the student's notes. Reason for range of questions is because the number of types of Reading & Writing Questions will slightly differ in Modules I and II.]

[ON THE READING PASSAGE QUESTIONS, THERE ARE THREE PRONGS INVOLVED WITH ANSWERING THE QUESTIONS CORRECTLY: A) YOUR ANSWER MUST ANSWER THE EXPLICIT QUESTION ASKED; B) YOUR ANSWER MUST HAVE TEXTUAL SUPPORT CONTAINED WITHIN IN THE WORDS OF THE PASSAGE; AND, C) ONE ANSWER IS CORRECT, THE OTHER THREE ANSWERS ARE WRONG, PERIOD. IN THIS REGARD, “MAYBE” ANSWERS ARE ALWAYS WRONG THROUGHOUT THE DSAT EXAM.]

[ALWAYS REPLACE ALL PRONOUNS THROUGHOUT READING & WRITING MODULES WITH THEIR PROPER NOUN ANTECEDENTS. {DSAT LOVES TO “HIDE” CORRECT ANSWER IN “PLAIN SIGHT” THROUGH THE USE OF PRONOUNS.}]

[ON TWO/THREE OCCASIONS
THROUGHOUT TEST, THERE WILL BE, AT
MOST, FOUR OF THE SAME ANSWER
CHOICES IN A ROW.]

[PROPER TIME MANAGEMENT ON THE
TEST: THIS EXAM IS CREATED BY
INDIVIDUALS WHO POSSESS A PhD IN
THE EDUCATIONAL PSYCHOLOGY OF
THE TEENAGE MIND; MEANING, THEY
STUDY HOW YOUR MIND OPERATES,
DESIGNING AN EXAM THAT USES YOUR
OWN MIND'S PROPER FUNCTIONING
AGAINST YOU. YOU MUST WORK IN AN
EXPEDITIOUS MANNER FROM THE VERY
START OF THE TEST. CONVERSELY, THE
MAKERS OF THE EXAM KNOW THAT
STUDENTS WILL WORK AT A SLOWER
PAGE AT THE START OF THE TEST,
RUNNING OUT OF TIME BEFORE THE
STUDENTS FINISH THE TEST MODULE.
IN ORDER TO CIRCUMVENT THE

VARIOUS TRICKS AND TRAPS PLANTED BY THE TEST DESIGNERS, EACH STUDENT NEEDS TO COMPREHEND WHAT TYPE OF TEST-TAKER HE/SHE IS. FOR EXAMPLE, IF YOU GET HIGHLY ANXIOUS AS THE TIMER GETS CLOSER TO THE END, YOU SHOULD FIRST ANSWER THE INITIAL GROUP OF QUESTIONS. ONCE YOU HIT A DIFFICULT QUESTION, GO STRAIGHT TO THE GRAMMAR PART OF THE TEST, FOLLOWED BY THE STUDENT-NOTES PART OF THE EXAM, THEN RETURN TO WHERE YOU LEFT OFF. ALSO, AS YOU TAKE THE TEST IN THIS ORDER, YOU SHOULD STILL FLAG ANY QUESTIONS YOU ARE HAVING DIFFICULTY ANSWERING, BUT, STILL ANSWER SUCH QUESTIONS. IF YOU HAVE ANY REMAINING TIME AT THE END OF THE TEST MODULE, RETURN TO YOUR FLAGGED QUESTIONS. IF, ON THE

OTHER HAND, YOU ARE THE TYPE OF STUDENT WHO PREFERS TO TAKE THE TEST CHRONOLOGICALLY, SIMPLY FLAG ANY QUESTION YOU ARE TROUBLE WITH, ANSWERING THAT QUESTION AS BEST AS YOU CAN, AND MOVE ON. HOPEFULLY, BY THE END OF THE TEST, YOU WILL HAVE TIME TO REVIEW THOSE FLAGGED QUESTIONS.]

[IT IS CRUCIAL ON THE READING & WRITING MODULES OF THE DSAT FOR STUDENTS TO ANNOTATE KEY WORDS/ PHRASES CONTAINED IN THE PASSAGES, TEST QUESTIONS, AND ANSWER CHOICES IN ORDER TO CORRECTLY ANSWER THE QUESTIONS.]

[ELIMINATING/WASTING TIME
FERRETING OUT SIMILAR ANSWER
CHOICES IS AN OUTDATED TEST
STRATEGY. THE DSAT IS WELL AWARE
THAT TEST-TAKERS USED TO EMPLOY
THIS TEST STRATEGY AND, AS SUCH,
HAS TAKEN MEASURES TO PRECLUDE
ITS EFFECTIVE USE ON THE NEWEST
VERSION OF THE TEST.]

Reading & Writing Module I

- 1) C [You must be extremely careful on the DSAT which loves to employ “double-fakes” all throughout the test to deliberately knock students off-balance. In order to circumvent such questions, you must annotate a small handful of words from the question which reveals the true meaning of what the question is asking you. For example, here, underline “Dragon against Tiger” “classical Japanese painting” placed in juxtaposition to “traditional European methods” understanding Gaho, unlike Eisaku, “embraced traditional Japanese approaches” in his paintings.] {A “double-fake” is a question/answer choice that seems to say one concept, but literally says the opposite concept.}
- 2) A [“deviates structurally from the wild plant it is descended from” “another domesticated crop from the Americas, doesn’t closely resemble any wild plant, and genetic research only recently revealed its ancestor ...]. [Be careful: On many of these questions, you need to follow the convoluted reasoning to reveal the correct answer.] [Understand: the correct answer is always contained, on these types of questions, in the words of the vocabulary-in-context question. Your job is to find the contextual clues within the passage that lead to the correct answer.]

- 3) C [Here is a useful trick: Put in your own word into the blank that flows nicely in the sentence, then, look for a synonym for your word amongst the answer choices.]
- 4) D [Here, key word is “hypothesis”]
- 5) D [Be Pro-Active, meaning that some DSAT questions give you too many words in an effort to confuse you and hide correct answer. To circumvent this common DSAT trick, briefly summarize passage in your own words then answer question asked. For example, scientists once believed woolly mammoths were hunted to extinction with Clovis tipped spears. One scientist set up experiment casting doubt on this thesis.]
- 6) C [Passage discusses two Native American cultural centers that are Indigenous led as contrasted with other Native American Cultural Centers which are not Indigenous led.]
- 7) C [Text 2 “methodological shortcomings” means author of Text 2 believes results from such studies are inherently flawed.]
- 8) A [“It (“the Spanish language”) has served as a medium through which Indigenous languages have influenced English.” “The word ‘cocoa’ came to English indirectly from cacao, the Spanish word for the plant that chocolate is made from.”]
- 9) A [“although income of course constrained fuel” choice, several factors, including the difficulty of acquiring fuel sources, influenced decisions.”
{WHENEVER PASSAGE/ANSWER CHOICE(S)}

CONTAIN UNFAMILIAR VOCABULARY WORDS (“REDUCTIVE”), REMAIN CALM — TYPICALLY, THERE WILL BE CONTEXTUAL CLUES ILLUMINATING MEANING OF THIS WORD.}]

- 10) A [“The sermon ... extends no farther than the strength of memory can convey it, ... a book conveys its contents for ages to come, to the eternity of mortal time...]
- 11) [Start with: “student claims that there were more medicine and health research topics submitted in 2019 than in any other year.” Then, go into the graph and validate that this claim is true.]
- 12) B [Need to validate that Colette had, “a strong emotional attachment to the surrounding forests... Use “my favorites, my favorites...It makes my heart bleed to see one of those cut down.”]
- 13) Deleted
- 14) B [For questions like these, the first step is to grab the researchers’ claim, which, typically —like here— can be found at the end of the passage: “the caterpillar sounds recorded in their study are directed primarily at predators.” This statement supports Answer Choice B) that “Chickens and yellow warblers, two predators of caterpillars, have been observed to stop their attacks in response to caterpillar sounds.”]
- 15) A [“In dialects of English spoken in Scotland, the “r” sound is strongly emphasized when it appears at the end of syllables... English dialects of the Upland South ... place similar emphasis on “r” at the ends of

syllables...] [RECALL: AS A TRICK THE DSAT WILL DELIBERATELY GIVE THE TEST-TAKER TOO MANY WORDS IN THE PASSAGE. THE TEST-TAKERS JOB IS TO CULL THE RELEVANT WORDS FROM THE PASSAGE TO CORRECTLY ANSWER THE PRECISE QUESTION ASKED.]

- 16) B [ALWAYS DECONSTRUCT SENTENCES INTO THEIR RESPECTIVE INDEPENDENT/DEPENDENT CLAUSES. PLEASE SEE SAM'S GRAMMAR GUIDE. Here, the opening clause: "When ... antennas ..." is a Dependent Clause ("DC"), and the ending clause: "the pitch ... the air." is an Independent Clause ("IC"). ALL CLAUSES IN A SENTENCE ARE SEPARATED USING VARIOUS PUNCTUATION MARKS. IN ANY SENTENCE ALWAYS PLACE A COMMA BETWEEN AN IC AND A DC.]
- 17) B [Proper Word Choice]
- 18) A [Here, we need a period between "geoglyphs" and "An" so as to avoid a Run-On sentence.]
- 19) D [Same reasoning applies for Question 19 as for Question 18.]
- 20) B [Same reasoning applies for Question 20 as for Questions 18 and 19.] [WHENEVER YOU HAVE A SIMILAR SITUATION TESTED IN QUESTIONS 18-20, DO THIS: CHECK AND SEE IF THE NEW IC IS RELATED TO THE IC FROM THE PREVIOUS SENTENCE BECAUSE IF THE NEW IC IS UNRELATED THEN WE HAVE A RUN-ON SENTENCE ISSUE.]

- 21) B [“through community involvement and scientific study” is a DC. As such, we need to surround this clause with commas.]
- 22) B [Link “first” with “Next”]
- 23) D [RECALL: FOR STUDENT NOTES QUESTIONS, READ THE QUESTION FIRST. AFTERWARDS, AS YOU READ THROUGH THE STUDENT’S NOTES, FOCUS ONLY ON THOSE NOTES WHICH ANSWER THE QUESTION ASKED. Here, we need to focus on distinguishing between first and second-class levers. In this regard, the only two notes that matter are the student’s final two notes.]
- 24) D [Here, we need to emphasize a difference between the two sculptures. Again, to answer this question, we need only concern ourselves with the final two student notes.]
- 25) C [Here, you are only focusing on the student notes emphasizing a difference between Water Line and Seven Earth Mountain, located in student notes 4 and 6.]
- 26) A [Here, focus on when Euramerica formed: Student-Note #5.]
- 27) A [Here, focus only on the location of Haystack Mountain School of Crafts: Student-Notes 1-2.]

Reading & Writing Module II

- 1) B [Here, need opposite of “significant”]
- 2) C [Use Vocabulary trick of putting in your own word or phrase into the blank to logically finish sentence, then look for synonym to your word or phrase amongst the answer choices. Here, in the blank put: “to cause something to happen” which is synonymous with engender.]
- 3) A [Here, choose your own word “highlight,” which is synonymous with “register.”]
- 4) A [AVOID TRICK OF SELECTING MOST SOPHISTICATED SOUNDING WORD: INELUCTABLE MEANS “UNABLE TO BE RESISTED” WHEREAS INSUPERABLE MEANS DIFFICULTY OR OBSTACLE.]
- 5) C [TO ANSWER STRUCTURE QUESTIONS, MORE OFTEN THAN NOT, FOCUS ON THE START AND THE END OF THE PASSAGE. Here, first sentence is the question, final sentence is the possible answer to this question.]
- 6) B [“because they offer insights into their authors’ artistic development. But some scholars also argue that recovering juvenilla by lesser-known writers is essential to understanding literary history.”]
- 7) D [“allowing Kastovska, et al. to attribute the acceleration to temperature-induced increases in microorganism activity.”]

- 8) A ["Michael G. Campana and colleagues relied on historical DNA (hDNA) —genomic data incidentally preserved in specimens housed in natural history collections— to investigate the evolutionary origins of a fungal pathogen affecting bats. Although this approach offers unique benefits, such as access to genomic data from extirpated populations ...]
- 9) A ["student claims...painting... marks a significant change in Bonheur's artistic development." Combined with: "can be thought of as belonging to her earlier style, to which she never returned."]
- 10) A [Step One: Grab the team's conclusion: "Each dog was familiar with Spanish or Hungarian, but not both. The team concluded that differences in dogs' anatomical features may affect their ability to distinguish speech from non-speech."]
- 11) D [Grab the claim: "ambivalence toward poetry as the speaker acknowledges its [RECALL: ALWAYS UNMASK THE PRONOUN'S PROPER NOUN, HERE, "POETRY'S"] merits while also expressing a sense of displeasure ... "Reading [poetry], however, with a perfect contempt [HATRED-NEGATIVE] for it [Poetry], one discovers that there is in / it [Poetry] after all, a place for the genuine."]
- 12) D [Grab the claim: "in one portion of the novel, Toomer uses figurative language to connect the narrator's urban environment of Washington, DC, and the rural South of the narrator's past..." "[W]ind is from the

South, soil of my homeland falls like a fertile shower upon the lean streets of [Washington, DC.]”

- 13) B [Grab Persad and her colleagues’ conclusion: Concentration of precipitation into fewer events would result in a higher number of dry days, triggering more irrigation, but that this change in irrigation output is highly sensitive to the baseline concentration of precipitation that currently exists in the area.” “If baseline precipitation is somewhat concentrated, water use for irrigation —in surface water and groundwater, respectively— will increase only slightly —0.4% and 0.9% respectively— whereas it will increase 9.0% for surface water and 7.9% for groundwater if baseline precipitation is evenly distributed.”]
- 14) A [“The [British naval ranking] system considered the number of a ship’s cannons and decks...first-rate ships had between 850 and 875 crewmen while lower ranked ships had fewer. Two of the ships in the British Royal Navy from this period were the Boyne (98 cannons and three decks) and the Britannia (120 cannons and three decks). Of these two, only the Britannia was ranked a first-rate ship...”]
- 15) B [“In a 2018 study, Deepak Jaiswal and Rishi Kant found that consumers’ knowledge of environmental issues had no effect on the likelihood that the consumers would purchase environmentally friendly products. Since this study was based on fewer than 400 young adults in India, however, doubts have been

raised about how reliable and representative the findings are. To better understand the issue, Wencan Zhuang and colleagues analyzed the results of 54 studies of eco-friendly consumer behavior, such as a 2018 study from Indonesia that included 916 participants and a 2018 study from India with 202 participants. Taking all 54 studies together, Zhuang and colleagues found a significant positive effect of environmental knowledge on eco-friendly purchasing decisions...] [RECALL: POSITIVE V. NEGATIVE CORRELATION OR FINDING MEANS, RESPECTIVELY, A SIMILAR AND A NEGATIVE RELATIONSHIP BETWEEN TWO DATA POINTS.]

- 16) D [Semicolons are used to separate two related, independent [CLAUSE CAN EXIST AS ITS OWN SENTENCE.] clauses.]
- 17) B [RECALL: NEVER PLACE ANY PUNCTUATION MARKS BETWEEN PROPER NOUNS. “French portrait artist Marie-Denise Villers...” is a proper noun.]
- 18) C [SAME CONCEPT AS ABOVE: “oil painting Gun with Hand #1...]
- 19) B [Lack of Subject-Verb Coordination: Grab the Subject (Main) Noun and the Subject (Main) Predicate (Verb) and read them together: Here, “analysis ... identifies”]
- 20) D [The proper use of a colon is to expand upon the concept before the colon. Here, the text that follows the colon expands upon the NATO member countries’ obligations to the other NATO member countries.]

- 21) B [Here, we have two related IC's]
- 22) C [Need to show contrast between snowpack levels at higher and lower elevations: "on the other hand,"]
- 23) B [Use "in fact" when text, as here, is stating a historical truth.]
- 24) B [We need a contrast term here like "though"]
- 25) B [Go to question: "Student wants to provide a specific example of a slow TV program" Focus on first three student notes to locate answer.]
- 26) B [We need "location of the figures in Lost in Shuffle: Use Student-Note 4]
- 27) A [Need to emphasize scope of Basquiat's work: Student-Notes 1, 3 & 4]

Math Module I

- 1) D [y-intercept is where the graph of the line crosses the y axis and the x-coordinate is 0; x-intercept is where the graph of the line crosses the x axis and the y-coordinate is 0. Here the graph of the line crosses the y axis at coordinate point -6]
- 2) A [Probability requires all possible in the denominator and what you are looking for in the numerator. Here, all possible is 70, and what we are looking for is 10.]
- 3) D [Here, “scale of” means to multiply by that number. $13 \times 3 = 39$.]
- 4) A [Quadratic equations represent parabolas. A parabola could open upward or downward. This parabola opens upward with a minimum height of (6,3)]
- 5) D [If $3x = 8$, then x equals $8/3$. $(21x/1)(8/3) = 56$.
{RECALL OUR TRICK: WHERE NUMERATOR OR DENOMINATOR OF FIRST FRACTION DIVIDES INTO DENOMINATOR OR NUMERATOR OF SECOND FRACTION OR VICE VERSA, SHORT-CIRCUIT ANSWER BY DIVIDING THESE QUANTITIES. HERE, THE DENOMINATOR OF THE SECOND FRACTION “3” DIVIDES INTO THE NUMERATOR OF THE FIRST FRACTION “21.”} REPLACE THE “3” WITH “1” AND THE “21” WITH “7” THEN MULTIPLY “8” TIMES “7” EQUALS 56.]

- 6) C [Grab the car's speed's parameters: At least 25 mph but no more than 50 mph]
- 7) C [$A = S/N$ or Average (Mean) equals Sum of the Numbers / Number of Numbers. Here, $10 + 14 + 22 + 6 + 24 + 26 + 14 + 8 + 8 + 8$ equals $140/10 = 14$]
- 8) D [$f(x) = 7x + 3$ {UNDERSTAND THAT THE b IN THE EQUATION OF A LINE IS ALWAYS THE START OF THE GRAPH.} Here, the b represents the height of the willow tree when it was first measured, i.e., the start of the graph.]
- 9) B [Whenever you are dealing with the multiplication of polynomials, reverse engineer the process through the F.O.I.L. lens.]
- 10) 17 [$f(x) = x^3 + 8x + 17$ {WHENEVER YOU ARE GIVEN THE EQUATION OF A LINE OR POLYNOMIAL, AND A COORDINATE POINT ON SAID LINE OR POLYNOMIAL, SIMPLY PLUG IN THE COORDINATE POINT BACK INTO THE EQUATION. HERE, THE POINT IS $(0, b)$ }.]
- 11) D [$y = 0.67x + 2.6$ $y = 0.67(35) + 2.6 = 8$]
- 12) B [$b - 49 = x/y$ [MULTIPLY BOTH SIDES BY y]
 $by - 49y = x$]
- 13) D [$2y = 5x + 16$ and $-2y = 7x - 22$ ADD TWO EQUATIONS — $0 = 12x - 6$ [ADD 6 TO BOTH SIDES OF EQUATION] $6 = 12x$ [DIVIDE BOTH SIDES OF EQUATION BY 12] $x = 1/2$ [PLUG IN $1/2$ BACK INTO QUESTION. BE CAREFUL DSAT MATH LOVES TO TRICK STUDENTS BY HAVING THEM FIRST SOLVE FOR x BUT THEN, LIKE HERE, THE STUDENT HAS

TO PLUG THE x BACK INTO THE ULTIMATE, WHICH IS WHY, JUST LIKE ON THE READING & WRITING MODULES, STUDENTS MUST ANNOTATE KEY WORDS/PHRASES IN THE MATH QUESTIONS:

HERE, $24x = 24(1/2) = 12.$]

- 14) 4.75 [HERE, SIMPLY SUBTRACT 19.5 FROM 24.25 EQUALS 4.75.]
- 15) D [USING THE FUNCTION OR FORMULA PROVIDED IN THE QUESTION: $f(x) = 55(1.04)^x$ (x power) KNOWING THAT, IN THE WORLD OF COORDINATE GEOMETRY, WHATEVER VALUE IS CONTAINED IN THE PARENTHESES IS THE x COORDINATE AND WHATEVER IT EQUALS IS THE MATCHING y COORDINATE, SUCH THAT $f(-4) = 7$ WOULD BE COORDINATE POINT $(-4, 7)$. THEREFORE, 7 IS THE x AND 72 IS THE $f(x)$.]
- 16) B [$y = x^2 + 18x - 23$ FOR MINIMUM VALUE, USE $-b/2a$: $-18/2 = -9$]
- 17) D [WHEN WORKING WITH PERCENTS, INCREASE, ADD TO 100, DECREASE, SUBTRACT FROM 100; THEREFORE, 1.03 EQUALS AN INCREASE OF 3 PERCENT.]
- 18) 4700 [RE-CONFIGURE QUESTION TO CROSS-MULTIPLY: $1/100 = 47/x$ $x = 4700$]
- 19) 2025 [AREA OF CIRCLE IS $(\pi)(r^2)$: $(\pi)(3x^2) = (\pi)(9x^2)$ and $(\pi)(135x^2) = (\pi)(18,225x^2) / (\pi)(9x^2) = 2025$]
- 20) 45/8 [STEP ONE: WHENEVER YOU ARE PROVIDED WITH TWO COORDINATE POINTS FROM THE LINE,

ASCERTAIN THE SLOPE: (1,5) (9,0)

$$((y_2 - y_1) / (x_2 - x_1)) = (0 - 5) / (9 - 1) = -5/8.$$

USING COORDINATE POINT (1,5), PLUG BACK INTO THE EQUATION OF A LINE, SOLVING FOR b:

$$y = mx + b \quad 5 = (1)(-5/8) + b \quad 5 = -5/8 + b \quad [\text{ADD } 5/8 \text{ TO BOTH SIDES OF THE EQUATION}] \quad (5 + 5/8) = b$$

$$[\text{CONVERT } 5 \text{ TO A FRACTION BY MULTIPLYING } (5)(8) = 40 \quad 40/8 + 5/8 = 45/8 = b]$$

21) $1/8$ [$2a/b = 6.5$ and $a/bn = 26$ WHAT DOES n EQUAL?

STEP ONE: DIVIDE 6.5 BY 2 = 3.25, NOW

SUBSTITUTE 3.25 FOR a/b IN SECOND EQUATION, EQUALS: $3.25n = 26$, NOW DIVIDE 26 BY 3.25

EQUALS $1/8$.]

22) A [WHENEVER QUESTION REFERENCES A BLANK GEOMETRY FIGURE, DRAW IT OUT. HERE, BECAUSE ANGLES Q AND R ARE ACUTELY, WE KNOW WE HAVE A RIGHT TRIANGLE. $\cos(Q) = \sin(R)$ MEANS ADJACENT/HYPOTENUSE EQUALS OPPOSITE OVER HYPOTENUSE, MEANING THEY ARE EQUAL; THEREFORE, $x + 61 = 4x + 4$ [SUBTRACT x AND 4 FROM EACH SIDE OF THE EQUATION, LEAVING $3x = 57$, DIVIDE BOTH SIDES OF EQUATION BY 3 = 19.]

MATH MODULE II

- 1) A [DISTRIBUTE 14 INSIDE PARENTHESES, EQUALS $14x \text{ sq'd} - 84$.]
- 2) D [ALWAYS SEEK TO CONVERT PERCENTAGE QUESTIONS INTO A SENTENCE: HERE, 189 IS WHAT PERCENT OF 900, KNOWING THAT IS MEANS EQUALS, WHAT MEANS x , AND, OF MEANS MULTIPLY: $189 = (x/100)(900)$. DIVIDE BOTH SIDES OF THE EQUATION BY 900, EQUALS: $189/900 = x/100$, FINALLY, CROSS-MULTIPLY: $900x = 18900$ DIVIDE BOTH SIDES OF EQUATION BY 100 EQUALS 21%]
- 3) B [MANIPULATE $x + 5 = 11$ INTO $x = 6$, NOW, PLUG 6 IN FOR x IN BOTTOM EQUATION: $y = (3)(6 \text{ sq'd}) + 3 = 111$.]
- 4) 343 [MANIPULATE $6/7p + 42 = 84$ BY SUBTRACTING 42 FROM BOTH SIDES OF THE EQUATION: $6/7p = 42$, NOW, DIVIDE BOTH SIDES OF THE EQUATION BY $6/7$ BY MULTIPLYING BOTH SIDES OF THE EQUATION BY THE RECIPROCAL OF $6/7$ WHICH IS $7/6$, WHICH EQUALS 343.]
- 5) C [DISTRIBUTE 5 AND 4 INTO BOTH SETS OF PARENTHESES ON OPPOSITE SIDES OF THE EQUATION: EQUALS: $5x + 20$ AND $4x + 16$, NOW, MANIPULATE EQUATION: $5x + 20 = 4x + 16 + 58$, EQUALS: [SUBTRACT $4x$ FROM $5x$, EQUALS x , ADD

16 + 58 EQUALS 74, SUBTRACT 20 FROM 74 EQUALS 54, x EQUALS 54. BUT, BUT, BUT, ALWAYS BE ON THE LOOK OUT FOR THE COMMON TRICK: YOU MUST PUT 54 IN FOR x, ANSWERING THE ULTIMATE QUESTION: $x + 4$ WHICH EQUALS $54 + 4 = 58$.]

- 6) D [AREA OF A CIRCLE IS $(\pi)(r^2)$; THEREFORE, CIRCLE N, WITH A RADIUS OF 6 HAS AN AREA OF $36\pi + 121\pi$ EQUALS 157π .]
- 7) B [GRANTED, DSAT HAS A MATH REFERENCE SHEET, BUT NOT ALL DSAT FORMULAS ARE INCLUDED ON THIS REFERENCE SHEET. IN ORDER TO SUCCEED ON DSAT MATH, YOU MUST MEMORIZE ROUGHLY 50 MATH FORMULAS. FOR EXAMPLE, THE EQUATION OF A LINE AND THE SLOPE FORMULAS, AMONGST A GROUP OF OTHER MATH FORMULAS— ARE ALWAYS TESTED ON THE DSAT. FURTHER, THE DSAT WILL SOMETIMES INTENTIONALLY PROVIDE YOU WITH THE EQUATION OF A LINE THAT IS DELIBERATELY NOT IN THE PROPER EQUATION OF A LINE FORMAT, AS HERE, KNOWING THAT, IN ORDER TO ANSWER THE QUESTION, YOU MUST MANIPULATE THE EQUATION BACK INTO THE PROPER EQUATION OF A LINE FORMAT. HERE, DISTRIBUTE $\frac{1}{4}$ INTO THE PARENTHESES: $y = \frac{27}{4}x + \frac{12}{4} + 7x$, NEXT, ADD $\frac{27}{4}x + 7x$ BY TURNING 7 INTO A FRACTION WITH 4 AS ITS DENOMINATOR {TRICK: SIMPLY MULTIPLY $(7)(4) = 28$; THEREFORE, $\frac{28}{4}x =$

7x. NEXT, ADD $27/4x + 28/4x$ EQUALS $55/4x$,
LEAVING: $y = 55/4x + 12/4$ or 3.]

- 8) A [HERE, SIMPLY REPLACE $f(x)$ WITH -19 BACK INTO EQUATION, SOLVING FOR x : $-19 = (x + 16)/5$ [WHENEVER YOU SEE TWO FRACTIONS ACROSS FROM AN EQUALS SIGN —AS HERE— ALWAYS CROSS-MULTIPLY: -19 TURNS INTO A FRACTION AS $-19/1 = (x + 16)/5$ $(5)(-19) = x + 16 = -95 = x + 16$ [SUBTRACT 16 FROM BOTH SIDES OF THE EQUATION] $x = -111$.]
- 9) D [SINCE 251 IS CONSIDERABLY LESS THAN OTHER DATA POINTS, THE MEAN AVERAGE OF THE NEW DATA SET IS LESS THAN THE AVERAGE OF THE ORIGINAL DATA SET. AS FOR ASCERTAINING THE MEDIAN: IS THERE AN EVEN OR ODD NUMBER OF NUMBERS, WITH ODD NUMBER OF NUMBERS, DIVIDE IN 2 AND ROUND UP. FOR EXAMPLE, 11 VALUES DIVIDED BY 2 IS 5.5 SO LOOKING FOR SIXTH VALUE. WITH EVEN SET OF NUMBERS DIVIDE BY 2 AVERAGING ANSWER AND NEXT HIGHER NUMBER. FOR EXAMPLE, WITH 10 NUMBERS, 10 DIVIDED BY 2 IS 5, AVERAGE FIFTH AND SIXTH NUMBERS IN THE LIST. NEXT, ARRANGE VALUES IN ASCENDING ORDER, SELECTING CORRECT ANSWER. HERE, THERE ARE 13 VALUES, $13/2$ IS 6.5, WE ARE, THEREFORE, LOOKING FOR THE 7TH VALUE WHICH IS 724. ADDING 251 TO THIS LIST, WE HAVE FOURTEEN

VALUES, $14/2$ IS 7 SO WE ARE AVERAGING THE 7TH AND 8TH VALUES, WHICH IS ALSO 724.]

- 10) D [STEP ONE: RECALL: VARIABLE LETTERS ARE IRRELEVANT: WHICHEVER LETTER IS INSIDE THE PARENTHESES IS THE x-COORDINATE, WHATEVER IT EQUALS IS THE y-COORDINATE NO MATTER THE VARIABLE LETTER. HERE, FOR EXAMPLE, $p(c) = -2$ AND $p(5) = 34$ TRANSLATES INTO THE SLOPE OF COORDINATE POINTS $(c, -2)$ AND $(5, 34)$ IS 6. SET BACK INTO SLOPE FORMULA: $((34 - (-2)) / (5 - c)) = 6$ PLACE A 1 UNDERNEATH THE 6 AND CROSS-MULTIPLY: $(36)(1) = 6(5 - c)$ $36 = 30 - 6c$ [SUBTRACT 30 FROM BOTH SIDES OF THE EQUATION: $6 = -6c$ [DIVIDE BOTH SIDES OF EQUATION BY -6] $c = -1$. NOW, REPLACE -1 FOR c AND SOLVE: $t(-1) = -4$ AND $t(6) = 52$ WHICH GIVES US COORDINATE POINTS: $(-1, -4)$ AND $(6, 52)$, NOW EMPLOY SLOPE FORMULA: $(-4 - 52) / (-1 - 6) = -56/-7 = 8$.]
- 11) 8 [WHENEVER YOU SEE THE WORD SOLUTION IN QUESTION CONTAINING A QUADRATIC EQUATION, EMPLOY THE DISCRIMINANT FORMULA: $b^2 - 4ac$ SUCH THAT A POSITIVE SOLUTION IS INDICATIVE OF TWO DISTINCT SOLUTIONS, 0 IS INDICATIVE OF ONE SOLUTION, AND A NEGATIVE IS INDICATIVE OF NO REAL SOLUTION. ALSO, IN USING THIS FORMULA, RECALL: $ax^2 + bx + c$ HERE, $a = 18$ $b = -24$ and $c = c$: $-24^2 - 4(18)(c) = 576 - 72c = 0$ [DIVIDE 576 BY 72 EQUALS 8.]

- 12) A [$V = (l)(w)(h)$ HERE, THE HEIGHT IS 11, THE LENGTH IS x , AND THE WIDTH IS $x - 1$:
 $V(x) = 11x(x - 1)$].
- 13) $((1/224 + 1) / (5)(1/224 \text{ sq'd})) = (k / 1/224)$
 CROSS MULTIPLY: $((1/224 + 224/224)) = ((225/224) (1/224) = (225/224 \text{ sq'd})$ AND
 $(5k)(1/224 \text{ sq'd}) = (5k)(224 \text{ sq'd})$ NOW DIVIDE BOTH SIDES BY $224 \text{ sq'd} = 5k = 225/5 = 45$.]
- 14) D [IF $g(x) < f(x)$ AND g IS A DECREASING LINEAR FUNCTION, AND THE GRAPHS OF $f(x)$ AND $g(x)$ INTERSECT AT TWO POINTS (h,j) AND (k,m) WHERE $j > m$ THEN $h < x < k$.]
- 15) C [$29(d/150)$ PLACING 300 IN FOR d EQUALS $(29)(2)$.]
 [SOMETIMES, BEST METHOD, LIKE HERE, IS TO PLUG IN THE ANSWER CHOICES.]
- 16) 26 [$234 = (9)(B)$ DIVIDE BOTH SIDES BY 9.]
- 17) 192.1 [CROSS MULTIPLY, MAKING SURE YOU PLACE LIKE QUANTITIES ACROSS FROM EACH OTHER.]
- 18) -23 [EQUATION OF A CIRCLE:
 $(x - h) \text{ sq'd} + (y - k) \text{ sq'd} = r \text{ sq'd}$ WHERE (h,k) IS CENTER OF CIRCLE AND (x,y) ARE COORDINATE POINTS AROUND THE CIRCLE. USING THE CENTER OF $(-7,3)$ KNOWING BECAUSE OF THE EQUATION OF A CIRCLE FORMULA IS: $((x - (-7)) \text{ sq'd}$ WHICH EQUALS $(x + 7) \text{ sq'd}$ [ALWAYS OPPOSITE VALUES INSIDE PARENTHESES] $(x + 7) \text{ sq'd}$ EQUALS:
 $x \text{ sq'd} + 14x + 49$ AND $(y - 3) \text{ sq'd}$ EQUALS:

$y^2 - 6y + 9$; THEREFORE, $a = 14$, $b = -6$ AND $c = -23$.]

- 19) D [$x^2 - c = -4(x^2 - 12x + 36) = -4x^2 + 48x - 144x + 11$
[PLUG IN ANSWER CHOICES] = $-4x^2 + 48x - 133$ HAS TWO DISTINCT SOLUTIONS BECAUSE USING THE DISCRIMINANT FORMULA, WITH 11 AS c PROVIDES POSITIVE SOLUTION WHICH HAS TWO DISTINCT REAL SOLUTIONS: $b^2 - 4ac$ WITH $a = -4$ $b = 48$ $c = -133$ ($48^2 - 4(-4)(-133)$ EQUALS $(2304 - (-2128))$ EQUALS 4432].
- 20) D [SINCE $a < b$ AND $b < 0$ THEN BOTH a AND b ARE NEGATIVE; THEREFORE, NEITHER I NOR II IS APPLICABLE.
- 21) C [ALWAYS MANIPULATE EQUATIONS BACK INTO EQUATION OF A LINE: $4y = 3 - 5x$ $y = 3/4 - 5/4x$ AND $12y = -15x + 9$ $y = -15/12x + 9/12$ WHICH EQUALS $-5/4x + 3/4$. NOW, PLUG IN ANSWER CHOICES, AND YOU WILL DISCOVER THAT PLUGGING IN $-4/5r + 3/5$ FOR x IN BOTH EQUATIONS OF A LINE ABOVE WILL PRODUCE r AS THE y COORDINATES.]
- 22) D [CONGRUENT TRIANGLES HAVE EQUAL SIDE LENGTHS; THEREFORE, PRONGS I AND II ARE SUFFICIENT TO PROVE THE TWO TRIANGLES ARE CONGRUENT.