The Ultimate Step by Step Guide

to Preparing for the SSAT Upper Level Math Test

Test taker's #1 Choice

SSAT UPPER LEVEL MATH 2020

for Beginners

Reza Nazari

✓ Recommended by Test Prep Experts

SSAT Upper Level Math for Beginners

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By

Reza Nazari



About Effortless Math Education

Effortless Math Education operates the www.effortlessmath.com website, which prepares and publishes Test prep and Mathematics learning resources. Effortless Math authors' team strives to prepare and publish the best quality Mathematics learning resources to make learning Math easier for all. We Help Students Learn to Love Mathematics.

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ISBN: 978-1-64612-953-9

Published by: **Effortless Math Education**

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SSAT Upper Level MATH For Beginners

Get ready to succeed on the SSAT Upper Level no matter your current understanding of math!

The perfect guide for students of every level, ***SSAT Upper Level Math for Beginners*** will help you incorporate the most effective methods and all the right strategies to get ready for your SSAT Math test!

This up-to-date guide reflects the 2020 test guidelines and will set you on the right track to hone your math skills, overcome exam anxiety, and boost your confidence. Are you ready to ace the SSAT Upper Level Math test?

SSAT Upper Level Math for Beginners creates confident, knowledgeable students that have all the skills they need to succeed on the SSAT. It builds a solid foundation of mathematical concepts through easy-to-understand lessons and basic study guides. Not only does this all-inclusive workbook offer everything you will ever need to conquer the SSAT Math test, but it also contains two full-length and realistic SSAT Upper Level Math tests that reflect the format and question types on the SSAT to help you check your exam-readiness and identify where you need more practice.

With this book, students will learn math through structured lessons, complete with a study guide for each segment to help understand and retain concepts after the lesson is complete. It includes everything from:

- Content 100% aligned with the **2020 SSAT Upper Level test**
- Written by SSAT Upper Level Math tutors and test experts
- **Complete coverage of all SSAT Upper Level Math concepts** and topics on the 2020 SSAT Upper Level test
- **Step-by-step guide** for all SSAT Upper Level Math topics
- Over 500 additional SSAT Upper Level math practice questions in both multiple-choice and grid-in formats with answers grouped by topic (so you can focus on your weak areas)

- Abundant Math skills building exercises to help test-takers approach unfamiliar question types
- **2 full-length practice tests** (featuring new question types) with detailed answers
- And much more!

With this self-study guide, you won't need a math tutor to pave your path to success. ***SSAT Upper Level Math for Beginners*** is the only book you'll ever need to master SSAT Upper Level Math concepts and ace the SSAT Upper Level Math test!

Ideal for self-study and classroom usage!

About the Author

Reza Nazari is the author of more than 100 Math learning books including:

- **Math and Critical Thinking Challenges:** For the Middle and High School Student
- **ACT Math in 30 Days**
- **ASVAB Math Workbook 2018 - 2019**
- **Effortless Math Education Workbooks**
- **and many more Mathematics books**

Reza is also an experienced Math instructor and a test–prep expert who has been tutoring students since 2008. Reza is the founder of Effortless Math Education, a tutoring company that has helped many students raise their standardized test scores––and attend the colleges of their dreams. Reza provides an individualized custom learning plan and the personalized attention that makes a difference in how students view math.

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Find the sum or difference.

31) $12.1 + 36.2 =$

32) $56.3 - 22.2 =$

33) $45.1 + 12.8 =$

34) $27.9 - 16.4 =$

35) $98.8 - 56.6 =$

36) $28.45 + 13.22 =$

37) $16.78 + 45.11 =$

38) $86.16 - 72.12 =$

39) $96.23 - 28.32 =$

40) $57.33 + 67.46 =$

41) $46.26 - 39.49 =$

42) $44.95 + 76.53 =$

43) $79.37 - 52.89 =$

44) $19.99 + 28.7 =$

45) $83.48 - 49.3 =$

46) $19.6 + 42.98 =$

Find the product or quotient.

47) $3.3 \times 0.2 =$

48) $2.4 \div 0.3 =$

49) $8.1 \times 1.4 =$

50) $4.8 \div 0.2 =$

51) $4.1 \times 0.3 =$

52) $8.6 \div 0.2 =$

53) $9.9 \times 0.8 =$

54) $1.84 \div 0.2 =$

55) $2.1 \times 8.4 =$

56) $1.6 \times 4.5 =$

57) $9.2 \times 3.1 =$

58) $36.6 \div 1.6 =$

59) $1.91 \times 5.2 =$

60) $3.65 \times 1.4 =$

61) $24.82 \div 0.4 =$

62) $12.4 \times 4.20 =$

Chapter 2: Answers

1) <
2) >
3) <
4) <
5) <
6) >
7) >
8) <
9) <
10) <
11) =
12) =
13) =
14) <
15) 6
16) 6
17) 12
18) 9
19) 8
20) 22
21) 7
22) 16
23) 13
24) 17
25) 68
26) 43
27) 56
28) 14
29) 79
30) 98
31) 48.3
32) 34.1
33) 57.9
34) 11.5
35) 42.2
36) 41.67
37) 61.89
38) 14.04
39) 67.91
40) 124.79
41) 6.77
42) 121.48
43) 26.48
44) 48.69
45) 34.18
46) 62.58
47) 0.66
48) 8
49) 11.34
50) 24
51) 1.23
52) 43
53) 7.92
54) 9.2
55) 17.64
56) 7.2
57) 28.52
58) 22.875
59) 9.932
60) 5.11
61) 62.05
62) 52.08

CHAPTER

3 Integers and Order of Operations

Math topics that you'll learn in this chapter:



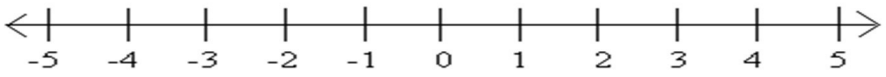
- ☑ Adding and Subtracting Integers
- ☑ Multiplying and Dividing Integers
- ☑ Order of Operations
- ☑ Integers and Absolute Value



Adding and Subtracting Integers

- Integers include zero, counting numbers, and the negative of the counting numbers. $\{\ldots, -3, -2, -1, 0, 1, 2, 3, \ldots\}$
- Add a positive integer by moving to the right on the number line. (you will get a bigger number)
- Add a negative integer by moving to the left on the number line. (you will get a smaller number)
- Subtract an integer by adding its opposite.

Number line



Examples:

Example 1. Solve. $(-2) — (-8) =$

Solution: Keep the first number and convert the sign of the second number to its opposite. (change subtraction into addition. Then: $(-2) + 8 = 6$

Example 2. Solve. $4 + (5 - 10) =$

Solution: First, subtract the numbers in brackets, $5 - 10 = -5$.
Then: $4 + (-5) = \rightarrow$ change addition into subtraction: $4 - 5 = -1$

Example 3. Solve. $(9 — 14) + 15 =$

Solution: First, subtract the numbers in brackets, $9 - 14 = -5$
Then: $-5 + 15 = \rightarrow -5 + 15 = 10$

Example 4. Solve. $12 + (-3 - 10) =$

Solution: First, subtract the numbers in brackets, $-3 - 10 = -13$
Then: $12 + (-13) = \rightarrow$ change addition into subtraction: $12 - 13 = -1$

Multiplying and Dividing Integers

Use the following rules for multiplying and dividing integers:

- (negative) × (negative) = positive
- (negative) ÷ (negative) = positive
- (negative) × (positive) = negative
- (negative) ÷ (positive) = negative
- (positive) × (positive) = positive
- (positive) ÷ (negative) = negative

Examples:

Example 1. Solve. $3 \times (-4) =$

Solution: Use this rule: (positive) × (negative) = negative.
Then: $(3) \times (-4) = -12$

Example 2. Solve. $(-3) + (-24 \div 3) =$

Solution: First, divide −24 by 3, the numbers in brackets, use this rule: (negative) ÷ (positive) = negative. Then: $-24 \div 3 = -8$
$(-3) + (-24 \div 3) = (-3) + (-8) = -3 - 8 = -11$

Example 3. Solve. $(12 - 15) \times (-2) =$

Solution: First, subtract the numbers in brackets,
$12 - 15 = -3 \rightarrow (-3) \times (-2) =$
Now use this rule: (negative) × (negative) = positive → $(-3) \times (-2) = 6$

Example 4. Solve. $(12 - 8) \div (-4) =$

Solution: First, subtract the numbers in brackets,
$12 - 8 = 4 \rightarrow (4) \div (-4) =$
Now use this rule: (positive) ÷ (negative) = negative → $(4) \div (-4) = -1$

Order of Operations

- In Mathematics, "operations" are addition, subtraction, multiplication, division, exponentiation (written as b^n), and grouping.
- When there is more than one math operation in an expression, use PEMDAS: (to memorize this rule, remember the phrase "Please Excuse My Dear Aunt Sally".)
  - ❖ Parentheses
  - ❖ Exponents
  - ❖ Multiplication and Division (from left to right)
  - ❖ Addition and Subtraction (from left to right)

Examples:

Example 1. Calculate. $(2 + 6) \div (2^2 \div 4) =$

Solution: First, simplify inside parentheses:
$(8) \div (4 \div 4) = (8) \div (1)$, Then: $(8) \div (1) = 8$

Example 2. Solve. $(6 \times 5) - (14 - 5) =$

Solution: First, calculate within parentheses: $(6 \times 5) - (14 - 5) = (30) - (9)$, Then: $(30) - (9) = 21$

Example 3. Calculate. $-4[(3 \times 6) \div (9 \times 2)] =$

Solution: First, calculate within parentheses:
$-4[(18) \div (9 \times 2)] = -4[(18) \div (18)] = -4[1]$
multiply -4 and 1. Then: $-4[1] = -4$

Example 4. Solve. $(28 \div 7) + (-19 + 3) =$

Solution: First, calculate within parentheses:
$(28 \div 7) + (-19 + 3) = (4) + (-16)$ Then: $(4) - (16) = -12$