



Name _____

Date _____

SAT Math Worksheet - 1

Lesson 1: Understand Polynomials

1. Add these polynomials. $(9x^3 + 2x^2 - 4x + 1) + (-5x^3 - x^2 - 5x + 7)$

- (A) $5x^3 + 3x^2 - 9x + 8$
- (B) $4x^3 + x^2 - 7x + 9$
- (C) $14x^3 + 3x^2 - 9x + 8$
- (D) $4x^3 + x^2 - 9x + 8$

2. Subtract these polynomials. $(2x^3 + 5x^2 - 7x - 8) - (7x^3 - 8x^2 + 5x - 3)$

- (A) $5x^3 + 13x^2 + 12x - 5$
- (B) $-5x^3 + 13x^2 - 12x - 5$
- (C) $-5x^3 - 13x^2 - 12x + 5$
- (D) $5x^3 + 13x^2 - 12x + 5$

3. Multiply these polynomials $(3x^3 + 4x^2) \cdot (-3x^2 + 2x + 1)$

- (A) $-9x^5 + 11x^3 + 4x^2$
- (B) $9x^5 + 6x^4 + 11x^3 + 4x^2$
- (C) $9x^5 - 6x^4 - 11x^3 + 4x^2$
- (D) $-9x^5 - 6x^4 + 11x^3 + 4x^2$

4. Add these polynomials $(7x^3 - 5x^2 - 8x + 15) + (-4x^3 - 2x^2 + 9x + 6)$.

- (A) $3x^3 - 7x^2 - x + 21$
- (B) $3x^3 - 7x^2 + x + 21$
- (C) $11x^3 - 7x^2 + x + 21$
- (D) $3x^3 + 7x^2 + x + 9$

5. Subtract $(x^3 + 2x^2 - x + 7)$ from $(4x^3 + 6x^2 + 2x - 7)$

- (A) $3x^3 + 4x^2 + 3x - 14$
- (B) $3x^3 + 4x^2 + 3x$
- (C) $-3x^3 - 4x^2 - 3x + 14$
- (D) $-3x^3 + 4x^2 + 3x - 14$



6. Multiply these polynomials $(x^2-6x+5) \times (-4x^2-x+1)$
Choose the correct answer choice

- (A) $4x^4+23x^3-13x^2-11x+5$
- (B) $-4x^4+23x^3-13x^2-11x+5$
- (C) $4x^4-23x^3-13x^2-11x+5$
- (D) $-4x^4+23x^3+13x^2+11x+5$

7. Add these polynomials $(x^3-x^2-14x+8) + (x^3-5x^2+7x+2)$

- (A) $2x^3 - 6x^2 - 14x + 8$
- (B) $2x^3 - 6x^2 - 7x + 10$
- (C) $2x^3 - 5x^2 + 8$
- (D) $2x^3 - 6x^2 + 4$

8. Subtract $(3x^3 + x^2 - 9x)$ from $(8x^3-4x^2-3)$

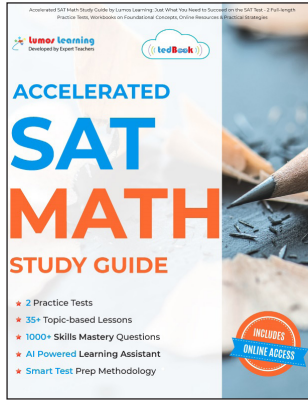
- (A) $5x^3 - 5x^2 + 9x + 3$
- (B) $5x^3 - 5x^2 + 9x - 3$
- (C) $5x^3 + 5x^2 - 9x + 3$
- (D) $5x^3 + 5x^2 + 9x - 3$

9. The expression $6a^2 - 3a + (-14a^2) - 6a + 12a^2$ is equivalent to

- (A) $5a^2$
- (B) $-5a^2$
- (C) $-4a^4 - 9a^2$
- (D) $4a^2 - 9a$

10. Which answer choice expresses the difference of $(4x^2 + 2x - 3) - (2x^2 - 5x - 1)$?

- (A) $2x^2 - 3x - 2$
- (B) $2x^2 + 7x - 2$
- (C) $2x^2 - 3x - 4$
- (D) $2x^2 + 7x - 4$



Customer reviews

Buy Now!

★★★★☆ 4.3 out of 5

It is an all out comprehensive study guide, covering topics from Pre-Algebra to advanced Geometry, Trigonometry, and more. The detailed explanations and practice tests are more than enough to help get the test taker on the right track.

- Ali Timkai

Lesson 1: Understand Polynomials

Question No.	Answer Key	Detailed Explanation
1	D	When combining polynomials, combine like terms by combining the coefficients. $(9x^3 + 2x^2 - 4x + 1) + (-5x^3 - x^2 - 5x + 7)$ $(9x^3 - 5x^3) + (2x^2 - x^2) + (-4x - 5x) + (1 + 7)$ $4x^3 + x^2 - 9x + 8$
2	B	When combining polynomials, combine like terms by combining the coefficients. $(2x^3 + 5x^2 - 7x - 8) - (7x^3 - 8x^2 + 5x - 3)$ $(2x^3 - 7x^3) + (5x^2 - (-8x^2)) + (-7x - 5x) + (-8 + 3)$ $- 5x^3 + 13x^2 - 12x - 5$
3	D	When multiplying polynomials, use modified distribution and the product rule for exponents. Then combine like terms by combining the coefficients. $(3x^3 + 4x^2) \cdot (-3x^2 + 2x + 1)$ $3x^3 \cdot (-3x^2 + 2x + 1) + 4x^2 \cdot (-3x^2 + 2x + 1)$ $-9x^5 + 6x^4 + 3x^3 - 12x^4 + 8x^3 + 4x^2$ $-9x^5 - 6x^4 + 11x^3 + 4x^2$
4	B	When combining polynomials, combine like terms by combining the coefficients. $(7x^3 - 5x^2 - 8x + 15) + (-4x^3 - 2x^2 + 9x + 6)$ $(7x^3 + -4x^3) + (-5x^2 + -2x^2) + (-8x + 9x) + (15 + 6)$ $3x^3 - 7x^2 + x + 21$



Question No.	Answer Key	Detailed Explanation
5	A	When combining polynomials, combine like terms by combining the coefficients. Subtract $(x^3 + 2x^2 - x + 7)$ from $(4x^3 + 6x^2 + 2x - 7)$ $(4x^3 + 6x^2 + 2x - 7) - (x^3 + 2x^2 - x + 7)$ $(4x^3 - x^3) + (6x^2 - 2x^2) + (2x - (-x)) + (-7 - 7)$ $3x^3 + 4x^2 + 3x - 14$
6	B	When multiplying polynomials, use modified distribution and the product rule for exponents. Then, combine like terms by combining the coefficients. $(x^2 - 6x + 5) \cdot (-4x^2 - x + 1)$ $(x^2) \cdot (-4x^2 - x + 1) - 6x \cdot (-4x^2 - x + 1) + 5 \cdot (-4x^2 - x + 1)$ $-4x^4 - x^3 + x^2 + 24x^3 + 6x^2 - 6x - 20x^2 - 5x + 5$ $-4x^4 + (-x^3 + 24x^3) + (x^2 + 6x^2 - 20x^2) + (-6x - 5x) + 5$ $-4x^4 + 23x^3 - 13x^2 - 11x + 5$
7	B	When combining polynomials, combine like terms by combining the coefficients. $(x^3 - x^2 - 14x + 8) + (x^3 - 5x^2 + 7x + 2)$ $(x^3 + x^3) + (-x^2 + -5x^2) + (-14x + 7x) + (8 + 2)$ $2x^3 - 6x^2 - 7x + 10$
8	B	When combining polynomials, combine like terms by combining the coefficients. Subtract $(3x^3 + x^2 - 9x)$ from $(8x^3 - 4x^2 - 3)$ means $(8x^3 - 4x^2 - 3) - (3x^3 + x^2 - 9x)$ $(8x^3 - 3x^3) + (-4x^2 - x^2) + (-(-9x)) + (-3)$ $5x^3 - 5x^2 + 9x - 3$
9	D	Student must identify the like terms and combine by applying the rules of integer operations.
10	B	Student must identify the like terms and combine by applying the rules of integer operations; student must be careful to distribute the negative sign to the second polynomial.

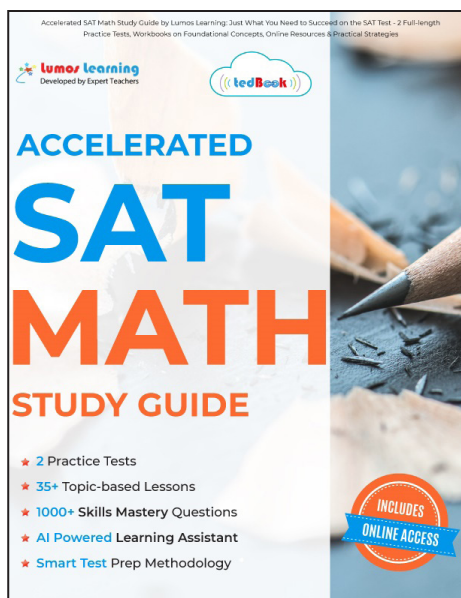
Table of Contents

Page
#

Introduction			1
Chapter 1: Lumos Smart Test Prep Methodology			2
Lesson 1	Diagnose Learning Gaps and Develop a Study Plan		2
Lesson 2	Test-taking Tips and Strategies for SAT Math		5
Chapter 2: Heart of Algebra			10
Lesson 1	HSA.APR.A.1 Understand Polynomials		11
Lesson 2	HSA.APR.B.2 Remainder Theorem		13
Lesson 3	HSA.APR.B.3 Zeros of a Polynomial		16
Lesson 4	HSA.CED.A.1 Create Equations and Inequalities in one Variable		18
Lesson 5	HSA.CED.A.2 Create Equations in Two or More Variables		21
Lesson 6	HSA.CED.A.3 Represent Constraints with Equations or Inequalities		24
Lesson 7	HSA.CED.A.4 Rearrange Formulas to Isolate Different Variables		27
Lesson 8	HSA.REI.A.1 Solve Simple Rational and Radical Equations with one Variable		29
Lesson 9	HSA.REI.B.3 Solve Linear Equations and Inequalities with one Variable		31
Lesson 10	HSA.REI.B.4 Solve Quadratic Equations with One Variable		33
Lesson 11	HSA.REI.C.6 Solve Systems of Linear Equations Exactly and Approximately		36
Lesson 12	HSA.REI.C.7 Solve a Simple System Consisting of a Linear Equation and a Quadratic Equation		39
Lesson 13	HSA.REI.D.10 Understanding the Relationship between Equations & Graphs		42
Lesson 14	HSA.SSE.A.1 Interpret Expressions		44
Chapter 3: Problem Solving and Data Analysis			46
Lesson 1	HSS.IC.B.6 Finding Conditional Probability		47
Lesson 2	HSS.IC.A.1 Make Inferences about Population Parameters		50
Lesson 3	HSS.ID.A.1 Representing Data in Graphs		53
Lesson 4	HSS.ID.A.2 Using Statistics to Compare Data		58
Lesson 5	HSS.IC.B.5 A Randomized Experiment to Compare Two Treatments		62
Lesson 6	HSS.ID.C.7 Interpret the Slope and the Intercept		67
Lesson 7	HSN.CN.A.1 Introduction to Imaginary and Complex Numbers		70
Lesson 8	HSN.CN.A.2 Add, Subtract, and Multiply Complex Numbers		72
Lesson 9	HSN.Q.A.1 Understanding Units of Measure & Unit Conversion		74
Lesson 10	HSN.RN.A.2 Simplifying Expressions with Rational Exponents		78

Chapter 4: Passport to Advanced Math			80
Lesson 1	HSF.BF.A.1	Writing Functions that Describe a Relationship Between Two Quantities	81
Lesson 2	HSF.IF.A.1	Understand Domain and Range	84
Lesson 3	HSF.IF.A.2	Using Function Notation & Evaluating Functions	87
Lesson 4	HSF.IF.B.4	Modeling Functional Relationships with Tables and Graphs	89
Lesson 5	HSF.IF.C.7	Understanding the Graph of a Function	94
Lesson 6	HSF.LE.A.1	Modeling Linear and Exponential Functions	100
Lesson 7	HSF.LE.A.2	Construct Linear and Exponential Functions	103
Lesson 8	HSF.LE.B.5	Linear Equations in Business	108
Lesson 9	HSF.TF.A.1	Radians, Degrees, and Arc Length	111
Chapter 5: Additional Topics in Math			114
Lesson 1	HSG.C.B.5	Concepts Related to Sectors of a Circle	115
Lesson 2	HSG.CO.A.1	Introduction to Geometry, Concepts	117
Lesson 3	HSG.GPE.A.3	Finding Volume of Cylinders, Pyramids, Cones and Spheres	119
Lesson 4	HSG.GPE.A.1	Equation of a Circle	122
Lesson 5	HSG.MG.A.1	Describing Objects and Their Properties	124
Lesson 6	HSG.SRT.B.5	Triangle Congruence Statements	126
Answer Keys and Detailed Explanations			129
Chapter 2: Heart of Algebra			130
Chapter 3: Problem Solving and Data Analysis			168
Chapter 4: Passport to Advanced Math			196
Chapter 5: Additional Topics in Math			220
Rehearsal Practice Test			233
Rehearsal Practice Test			234
Answer Sheet			249
Answer Key & Detailed Explanations			250
Additional Information			278
SAT Math FAQ			279
What if I buy more than one Lumos Study Program?			280
Lumos StepUp® Mobile App FAQ for Students			281
Lumos StepUp® Mobile App FAQ for Parents and Teachers			282
Progress Chart			283

[Click Here to Buy Full Workbook](#)



Customer reviews

★★★★☆ 4.3 out of 5

Buy Now!

For Discounts on Bulk Ordering

Contact Us:

support@lumoslearning.com

888-309-8227

This book is an excellent skill and content review. As an Algebra teacher, I was impressed with the wide amount of topics covered in the over 35 lessons in the book. I highly recommend this book for the wide variety and depth of topics.

- Harbison

I am very impressed with this program! It begins with a diagnostic assessment that provides immediate feedback on which standards were mastered. It also tells you which lessons to target to improve your performance. The answer key not only provides the answer BUT a detailed explanation and demonstration of how to solve the problem! The best part was that there are enough questions in each section to truly feel as though you are practicing that specific skill.

- Mark