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ATI TEAS 6 Math Study Guide 2020-2021

A Comprehensive Review and Step-By-Step Guide to Preparing for the ATI TEAS 6 Math

Recommended by Test Prep Experts



Reza Nazari & Ava Ross

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By

Reza Nazari & Ava Ross

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ISBN: 978-1-64612-313-1

Published by: Effortless Math Education

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Description

ATI TEAS 6 Math Study Guide, which reflects the 2020 - 2021 test guidelines, is designed by top ATI TEAS 6 Math instructors and test prep experts to help test takers succeed on the ATI TEAS 6 Math Test. The updated version of this comprehensive ATI TEAS 6 Math preparation book includes Math lessons, extensive exercises, sample ATI TEAS 6 Math questions, and quizzes with answers and detailed solutions to help you hone your math skills, overcome your exam anxiety, boost your confidence—and do your best to ace the ATI TEAS 6 exam on test day. Upon completion of this perfect ATI TEAS 6 Math prep book, you will have a solid foundation and sufficient practice to ace the ATI TEAS 6 Math test.

Not only does this all-inclusive prep book offer everything you will ever need to prepare for the ATI TEAS 6 Math test, but it also contains two complete and realistic ATI TEAS 6 Math tests that reflect the format and question types on the ATI TEAS 6 to help you check your exam-readiness and identify where you need more practice.

ATI TEAS 6 Math Study Guide contains many exciting and unique features to help you prepare for the ATI TEAS 6 Math test, including:

- ✓ Content 100% aligned with the 2020 ATI TEAS 6® test
- ✓ Written by ATI TEAS 6 Math instructors and test experts
- ✓ Complete coverage of all ATI TEAS 6 Math concepts and topics which you will be tested
- ✓ Step-by-step guide for all ATI TEAS 6 Math topics
- ✓ Abundant Math skill building exercises to help test-takers approach different question types that might be unfamiliar to them
- ✓ Exercises on different ATI TEAS 6 Math topics such as integers, percent, equations, polynomials, exponents and radicals
- ✓ 2 full-length practice tests (featuring new question types) with detailed answers

Name: ……..	**Date:** ……

Topic	**Simplifying Variable Expressions**	
Notes	✓ In algebra, a variable is a letter used to stand for a number. The most common letters are: $x, y, z, a, b, c, m, and\ n$. ✓ Algebraic expression is an expression contains integers, variables, and the math operations such as addition, subtraction, multiplication, division, etc. ✓ In an expression, we can combine "like" terms. (values with same variable and same power)	
Example	***Simplify this expression***. $(6x + 8x + 9) =?$ Combine like terms. Then: $(6x + 8x + 4) = 14x + 9$ **(remember you cannot combine variables and numbers).**	
Your Turn!	1) $5x + 2 - 2x =$	2) $4 + 7x + 3x =$
	3) $8x + 3 - 3x =$	4) $-2 - x^2 - 6x^2 =$
	5) $3 + 10x^2 + 2 =$	6) $8x^2 + 6x + 7x^2 =$
	7) $5x^2 - 12x^2 + 8x =$	8) $2x^2 - 2x - x + 5x^2 =$
	9) $4x - (12 - 30x) =$	10) $10x - (80x - 48) =$

Name: ……	**Date:** ……

Topic	**Simplifying Variable Expressions - Answers**	
Notes	✓ In algebra, a variable is a letter used to stand for a number. The most common letters are: $x, y, z, a, b, c, m, and\ n$. ✓ Algebraic expression is an expression contains integers, variables, and the math operations such as addition, subtraction, multiplication, division, etc. ✓ In an expression, we can combine "like" terms. (values with same variable and same power)	
Example	***Simplify this expression***. $(6x + 8x + 9) =?$ Combine like terms. Then: $(6x + 8x + 4) = 14x + 9$ ***(remember you cannot combine variables and numbers).***	
Your Turn!	1) $5x + 2 - 2x =$ $3x + 2$	2) $4 + 7x + 3x =$ $10x + 4$
	3) $8x + 3 - 3x =$ $5x + 3$	4) $-2 - x^2 - 6x^2 =$ $-7x^2 - 2$
	5) $3 + 10x^2 + 2 =$ $10x^2 + 5$	6) $8x^2 + 6x + 7x^2 =$ $15x^2 + 6x$
	7) $5x^2 - 12x^2 + 8x =$ $-7x^2 + 8x$	8) $2x^2 - 2x - x + 5x^2 =$ $72x^2 - 3x$
	9) $4x - (12 - 30x) =$ $34x - 12$	10) $10x - (80x - 48) =$ $-70x - 48$

Name: ……	**Date:** ……

Topic	**Simplifying Polynomial Expressions**	
Notes	✓ In mathematics, a polynomial is an expression consisting of variables and coefficients that involves only the operations of addition, subtraction, multiplication, and non–negative integer exponents of variables. $P(x) = a_n x^n + a_{n-1}x^{n-1} + \ldots + a_2 x^2 + a_1 x + a_0$	
Example	***Simplify this expression***. $(2x^2 - x^4) - (4x^4 - x^2) =$ First use distributive property: → multiply $(-)$ into $(4x^4 - x^2)$ $(2x^2 - x^4) - (4x^4 - x^2) = 2x^2 - x^4 - 4x^4 + x^2$ Then combine "like" terms: $2x^2 - x^4 - 4x^4 + x^2 = 3x^2 - 5x^4$ And write in standard form: $3x^2 - 5x^4 = -5x^4 + 3x^2$	
Your Turn!	1) $(2x^3 + 5x^2) - (12x + 2x^2) =$	2) $(2x^5 + 2x^3) - (7x^3 + 6x^2) =$
	3) $(12x^4 + 4x^2) - (2x^2 - 6x^4) =$	4) $14x - 3x^2 - 2(6x^2 + 6x^3) =$
	5) $(5x^3 - 3) + 5(2x^2 - 3x^3) =$	6) $(4x^3 - 2x) - 2(4x^3 - 2x^4) =$
	7) $2(4x - 3x^3) - 3(3x^3 + 4x^2) =$	8) $(2x^2 - 2x) - (2x^3 + 5x^2) =$

Name: ……	**Date:** ……

Topic	**Simplifying Polynomial Expressions - Answers**	
Notes	✓ In mathematics, a polynomial is an expression consisting of variables and coefficients that involves only the operations of addition, subtraction, multiplication, and non–negative integer exponents of variables. $P(x) = a_n x^n + a_{n-1}x^{n-1} + \ldots + a_2 x^2 + a_1 x + a_0$	
Example	***Simplify this expression.*** $(2x^2 - x^4) - (4x^4 - x^2) =$ First use distributive property: → multiply $(-)$ into $(4x^4 - x^2)$ $(2x^2 - x^4) - (4x^4 - x^2) = 2x^2 - x^4 - 4x^4 + x^2$ Then combine "like" terms: $2x^2 - x^4 - 4x^4 + x^2 = 3x^2 - 5x^4$ And write in standard form: $3x^2 - 5x^4 = -5x^4 + 3x^2$	
Your Turn!	1) $(2x^3 + 5x^2) - (12x + 2x^2) =$ $2x^3 + 3x^2 - 12x$	2) $(2x^5 + 2x^3) - (7x^3 + 6x^2) =$ $2x^5 - 5x^3 - 6x^2$
	3) $(12x^4 + 4x^2) - (2x^2 - 6x^4) =$ $18x^4 + 2x^2$	4) $14x - 3x^2 - 2(6x^2 + 6x^3) =$ $-12x^3 - 15x^2 + 14x$
	5) $(5x^3 - 3) + 5(2x^2 - 3x^3) =$ $-10x^3 + 10x^2 - 3$	6) $(4x^3 - 2x) - 2(4x^3 - 2x^4) =$ $4x^4 - 4x^3 - 2$
	7) $2(4x - 3x^3) - 3(3x^3 + 4x^2) =$ $-15x^3 - 12x^2 + 8x$	8) $(2x^2 - 2x) - (2x^3 + 5x^2) =$ $-2x^3 - 3x^2 - 2x$

Name: ……..	**Date:** ……

Topic	**Evaluating One Variable**	
Notes	✓ To evaluate one variable expression, find the variable and substitute a number for that variable. ✓ Perform the arithmetic operations.	
Example	***Find the value of this expression for*** $x = -3$. $-3x - 13$ **Solution:** Substitute -3 for x, then: $-3x - 13 = -3(-3) - 13 = 9 - 13 = -4$	
Your Turn!	1) $x = -3 \Rightarrow 3x + 8 =$ _____	2) $x = 4 \Rightarrow 4(2x + 6) =$ _____
	3) $x = -1 \Rightarrow 6x + 4 =$ _____	4) $x = 7 \Rightarrow 6(5x + 3) =$ _____
	5) $x = 4 \Rightarrow 5(3x + 2) =$ ___	6) $x = 6 \Rightarrow 3(2x + 4) =$ _____
	7) $x = 3 \Rightarrow 7(3x + 1) =$ ___	8) $x = 8 \Rightarrow 3(3x + 7) =$ _____
	9) $x = 9 \Rightarrow 2(x + 9) =$ _____	10) $x = 7 \Rightarrow 2(4x + 5) =$ _____

Name: ……	**Date:** ……

Topic	**Evaluating One Variable - Answers**	
Notes	✓ To evaluate one variable expression, find the variable and substitute a number for that variable. ✓ Perform the arithmetic operations.	
Example	***Find the value of this expression for*** $x = -3$. $-3x - 13$ **Solution:** Substitute -3 for x, then: $-3x - 13 = -3(-3) - 13 = 9 - 13 = -4$	
Your Turn!	1) $x = -3 \Rightarrow 3x + 8 = -1$	2) $x = 4 \Rightarrow 4(2x + 6) = 56$
	3) $x = -1 \Rightarrow 6x + 4 = -2$	4) $x = 7 \Rightarrow 6(5x + 3) = 228$
	5) $x = 4 \Rightarrow 5(3x + 2) = 70$	6) $x = 6 \Rightarrow 3(2x + 4) = 48$
	7) $x = 3 \Rightarrow 7(3x + 1) = 70$	8) $x = 8 \Rightarrow 3(3x + 7) = 93$
	9) $x = 9 \Rightarrow 2(x + 9) = 36$	10) $x = 7 \Rightarrow 2(4x + 5) = 66$