

Student Workbook

This workbook is your ticket to score higher on Algebra I test

Algebra I Exercise Book

Student Workbook 2019

- Content 100% aligned with the Algebra I courses
- Written by experienced Math tutors and test experts
- Complete coverage of all Algebra I concepts and topics which you will be tested
- Over 2,500 additional Algebra I math practice questions
- Abundant Math skill building exercises

Get ready for the Algebra I Test with a PERFECT Workbook!

Reza Nazari & Ava Ross

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Algebra I Exercise Book: Student Workbook

By

Reza Nazari

& Ava Ross

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ISBN-13: 978-1-970036-91-6

ISBN-10: 1-970036-91-5

Published by: Effortless Math Education

www.EffortlessMath.com

Description

This Algebra I workbook's new edition has been updated to replicate questions appearing on the most recent Algebra I test. Here is intensive preparation for the Algebra I course, and a precious learning tool for Algebra takers who need extra practice in math to raise their Algebra I scores. After completing this workbook, you will have solid foundation and adequate practice that is necessary to ace the Algebra I Test. **This workbook is your ticket to score higher on Algebra I test.**

The updated version of this hands-on workbook represents extensive exercises, math problems, sample Algebra I questions, and quizzes with answers and detailed solutions to help you hone your math skills, overcome your exam anxiety, and boost your confidence -- and do your best to defeat Algebra I exam on test day.

Each of math exercises is answered in the book which will help you find your weak areas and raise your scores. This is a unique and perfect practice book to beat the Algebra I Test.

Separate math chapters offer a complete review of the Algebra course, including:

- Functions and their applications
- Expressions and Equations
- Inequalities and System of Equations
- Quadratic and Polynomial Operations
- Radical Expressions
- … and many more Algebra I topics

The surest way to succeed on Algebra I is with intensive practice in every math topic tested--and that's what you will get in ***Algebra I Exercise Book***. Each chapter of this focused format has a comprehensive review created by Math experts that goes into detail to cover all of the content likely to appear on the Algebra I test.

Effortless Math Workbook *for the Algebra I* contains many exciting and unique features to help you improve your Algebra scores, including:

- Content 100% aligned with the Algebra I courses
- Written by experienced Math tutors and test experts
- Complete coverage of all Algebra I concepts and topics which you will be tested
- Over 2,500 additional Algebra I 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 skill building exercises to help you approach different question types that might be unfamiliar to you
- Exercises on different Algebra I topics such as equations, polynomials, exponents and radicals, functions, etc.

This Algebra I Workbook and other Effortless Math Education books are used by thousands of students each year to help them review core content areas, brush-up in math, discover their strengths and weaknesses, and achieve their best scores on the Algebra test.

Get ready for the Algebra Test with a PERFECT Workbook!

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
– GED 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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Chapter 1: The Basics

Topics that you'll learn in this chapter:

- ✓ Translate Phrases into an Algebraic Statement
- ✓ Order of Operations
- ✓ Properties of Numbers
- ✓ The Distributive Property

Translate Phrases into an Algebraic Statement

Write an algebraic expression for each phrase.

1) 4 multiplied by x. _____

2) Subtract 8 from y. _____

3) 6 divided by x. _____

4) 12 decreased by y. _____

5) Add y to 9. _____

6) The square of 5. _____

7) x raised to the fourth power. _____

8) The sum of nine and a number. _____

9) The difference between sixty–four and y. _____

10) The quotient of twelve and a number. _____

11) The quotient of the square of x and 7. _____

12) The difference between x and 8 is 22. _____

13) 2 times a reduced by the square of b. _____

14) Subtract the product of a and b from 12. _____

Order of Operations

Evaluate each expression.

1) $5 + (4 \times 2) =$

2) $13 - (2 \times 5) =$

3) $(16 \times 2) + 18 =$

4) $(12 - 5) - (4 \times 3) =$

5) $25 + (14 \div 2) =$

6) $(18 \times 5) \div 5 =$

7) $(48 \div 2) \times (-4) =$

8) $(7 \times 5) + (25 - 12) =$

9) $64 + (3 \times 2) + 8 =$

10) $(20 \times 5) \div (4 + 1) =$

11) $(-9) + (12 \times 6) + 15 =$

12) $(7 \times 8) - (56 \div 4) =$

13) $(4 \times 8 \div 2) - (17 + 11) =$

14) $(18 + 8 - 15) \times 5 - 3 =$

15) $(25 - 12 + 45) \times (95 \div 5) =$

16) $28 + \big(15 - (32 \div 2)\big) =$

17) $(6 + 7 - 4 - 9) + (18 \div 2) =$

18) $(95 - 17) + (10 - 25 + 9) =$

19) $(18 \times 2) + (15 \times 5) - 12 =$

20) $12 + 8 - (42 \times 4) + 50 =$

Properties of Numbers

Evaluate each expression. Name the property used in each step.

1) $3\ [4 - 2 \times 6] \div 6$

2) $5\ (6 + 8) \times 12$

3) $3 + 6 \times 12$

4) $15 - (6 - 2) \times 10$

5) $6\ [2 - (10 \div 2)]$

6) $4\ (9 \div 3 - 7) \times \frac{1}{2}$

7) $8 + 12\ [5 - 3(4 + 6)]$

8) $6 + 2\ (18 - 3^2) - 4$

9) $4\ (12 - 42 \div 3) + 3 \times \frac{4}{3}$

10) $5\ (27 \div 3^2)$

Find the value of x.

11) $5\ (2 \times 6) = 2\ (x \times 5)$

12) $(1 \times 5)\ 7 = (7 \times 1)\ x$

13) $(9 \times 1)\ 6 = x\ (9 \times 6)$

14) $(x \times 0)\ 10 = (4 \times 10)\ 0$

15) $(3 \times 1)\ 5 = (x \times 3)$

16) $(9 \times 3)\ 10 = x\ (10 \times 9)$

The Distributive Property

Use the distributive property to simply each expression.

1) $2(2+3x) =$

2) $3(5+5x) =$

3) $4(3x-8) =$

4) $(6x-2)(-2) =$

5) $(-3)(x+2) =$

6) $(2+2x)5 =$

7) $(-4)(4-2x) =$

8) $-(-2-5x) =$

9) $(-6x+2)(-1) =$

10) $(-5)(x-2) =$

11) $-(7-3x) =$

12) $8(8+2x) =$

13) $2(12+2x) =$

14) $(-6x+8)4 =$

15) $(3-6x)(-7) =$

16) $(-12)(2x+1) =$

17) $(8-2x)9 =$

18) $5(7+9x) =$

19) $11(5x+2) =$

20) $(-4x+6)6 =$

21) $(3-6x)(-8) =$

22) $(-12)(2x-3) =$

23) $(10-2x)9 =$

24) $(-5)(11x-2) =$

25) $(1-9x)(-10) =$

26) $(-6)(x+8) =$

27) $(-4+3x)(-8) =$

28) $(-5)(1-11x) =$

29) $11(3x-12) =$

30) $(-12x+14)(-5) =$

31) $(-5)(4x-1)+4(x+2) =$

32) $(-3)(x+4)-(2+3x) =$

Scientific Notation

Write each number in scientific notation.

1) $0.113 =$
2) $0.02 =$
3) $2.5 =$
4) $20 =$
5) $60 =$
6) $0.004 =$
7) $78 =$
8) $1{,}600 =$
9) $1{,}450 =$
10) $91{,}000 =$
11) $2{,}000{,}000 =$
12) $0.0000006 =$
13) $354{,}000 =$
14) $0.000325 =$
15) $0.00023 =$
16) $56{,}000{,}000 =$
17) $21{,}000 =$
18) $78{,}000{,}000 =$
19) $0.0000022 =$
20) $0.00012 =$

Write each number in standard notation.

21) $3 \times 10^{-1} =$
22) $5 \times 10^{-2} =$
23) $1.2 \times 10^{3} =$
24) $2 \times 10^{-4} =$
25) $1.5 \times 10^{-2} =$
26) $4 \times 10^{3} =$
27) $9 \times 10^{5} =$
28) $1.12 \times 10^{4} =$
29) $3 \times 10^{-5} =$
30) $8.3 \times 10^{-5} =$

Answers of Worksheets – Chapter 1

Translate Phrases into an Algebraic Statement

1) $4x$
2) $y - 8$
3) $\frac{6}{x}$
4) $12 - y$
5) $y + 9$
6) 5^2
7) x^4
8) $9 + x$
9) $64 - y$
10) $\frac{12}{x}$
11) $\frac{x^2}{7}$
12) $x - 8 = 22$
13) $2a - b^2$
14) $12 - ab$

Order of Operations

1) 13
2) 3
3) 50
4) -5
5) 32
6) 18
7) -96
8) 48
9) 78
10) 20
11) 78
12) 42
13) -12
14) 52
15) 1,102
16) 27
17) 9
18) 72
19) 99
20) -98

Properties of Numbers

1) – 4
2) 840
3) 75
4) 25
5) – 18
6) –8
7) – 292
8) 20
9) – 4
10) 15
11) 6
12) 5
13) 1
14) 0
15) 5
16) 3

The Distributive Property

1) $6x + 4$
2) $15x + 15$
3) $12x - 32$
4) $-12x + 4$
5) $-3x - 6$
6) $10x + 10$
7) $8x - 16$
8) $5x + 2$
9) $6x - 2$
10) $-5x + 10$
11) $3x - 7$
12) $16x + 64$
13) $4x + 24$
14) $-24x + 32$
15) $42x - 21$
16) $-24x - 12$
17) $-18x + 72$
18) $45x + 35$
19) $55x + 22$
20) $-24x + 36$
21) $48x - 24$

22) $-24x + 36$
23) $-18x + 90$
24) $-55x + 10$
25) $90x - 10$
26) $-6x - 48$
27) $-24x + 32$
28) $55x - 5$
29) $33x - 132$
30) $60x - 70$
31) $-16x + 13$
32) $-6x - 14$

Equations

1) {20}
2) {–16}
3) {1}
4) {–4}
5) {–4}
6) {4}
7) {12}
8) {–9}
9) {1}
10) {0}
11) $7 = x$
12) $-4 = x$
13) $30 = y$
14) $\frac{5}{56} = x$
15) $5 = y$
16) $\frac{1}{2} = x$
17) $27 = y$
18) $3 = y$
19) $x = -3$
20) $x = 55$

Scientific Notation

1) 1.13×10^{-1}
2) 2×10^{-2}
3) 2.5×10^{0}
4) 2×10^{1}
5) 6×10^{1}
6) 4×10^{-3}
7) 7.8×10^{1}
8) 1.6×10^{3}
9) 1.45×10^{3}
10) 9.1×10^{4}
11) 2×10^{6}
12) 6×10^{-7}
13) 3.54×10^{5}
14) 3.25×10^{-4}
15) 2.3×10^{-4}
16) 5.6×10^{7}
17) 2.1×10^{4}
18) 7.8×10^{7}
19) 2.2×10^{-6}
20) 1.2×10^{-4}
21) 0.3
22) 0.05
23) 1,200
24) 0.0002
25) 0.015
26) 4,000
27) 900,000
28) 11,200
29) 0.00003
30) 0.000083

Chapter 2: Expressions and Equations

Topics that you'll learn in this chapter:

- ✓ Simplify Expressions
- ✓ One–step Equations
- ✓ Multi–step Equations
- ✓ Finding Midpoint
- ✓ Finding Distance between Two Points
- ✓ Absolute Value Equations

Simplifying Variable Expressions

Simplify each expression.

1) $3(x+9) =$

2) $(-6)(8x-4) =$

3) $7x+3-3x =$

4) $-2-x^2-6x^2 =$

5) $3+10x^2+2 =$

6) $8x^2+6x+7x^2 =$

7) $5x^2-12x^2+8x =$

8) $2x^2-2x-x =$

9) $4x+6(2-5x) =$

10) $10x+8(10x-6) =$

11) $9\,(-2x-6)-5 =$

12) $2x^2+(-8x) =$

13) $x-3+5-3x =$

14) $2-3x+12-2x =$

15) $32x-4+23+2x =$

16) $(-6)(8x-4)+10x =$

17) $14x-5(5-8x) =$

18) $23x+4(9x+3)+12 =$

19) $3(-7x+5)+20x =$

20) $12x-3x(x+9) =$

21) $7x+5x(3-3x) =$

22) $5x(-8x+12)+14x =$

23) $40x+12+2x^2 =$

24) $5x(x-3)-10 =$

25) $8x-7+8x+2x^2 =$

26) $2x^2-5x-7x =$

27) $7x-3x^2-5x^2-3 =$

28) $4+x^2-6x^2-12x =$

29) $12x+8x^2+2x+20 =$

30) $2x^2+6x+3x^2 =$

31) $23+15x^2+8x-4x^2 =$

32) $8x-12x-x^2+13 =$