Algebra II

Workbook

Comprehensive Activities for Mastering Essential Math Skills

- **Dynamic design and easy-to-follow activities**
- **A fun, interactive and concrete learning process**
- **Targeted, skill-building practices**
- **Fun exercises that build confidence**
- **All solutions for the exercises are included, so you will always find the answers**

Reza Nazari & Ava Ross

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Comprehensive Activities for Mastering Essential Math Skills

By

Reza Nazari

& Ava Ross

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All inquiries should be addressed to:

info@effortlessMath.com

www.EffortlessMath.com

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Description

Algebra II Workbook provides students with the confidence and math skills they need to succeed in any math course they choose and prepare them for future study of Pre–Calculus and Calculus, providing a solid foundation of Math topics with abundant exercises for each topic. It is designed to address the needs of math students who must have a working knowledge of algebra.

Inside the pages of this comprehensive workbook, students can learn algebra 2 operations in a structured manner with a complete study program to help them understand essential math skills. It also has many exciting features, including:

- Dynamic design and easy–to–follow activities
- A fun, interactive and concrete learning process
- Targeted, skill–building practices
- Fun exercises that build confidence
- All solutions for the exercises are included, so you will always find the answers

Algebra II Workbook is an incredibly useful tool for those who want to review all topics being taught in algebra 2 courses. It efficiently and effectively reinforces learning outcomes through engaging questions and repeated practice, helping you to quickly master Math skills.



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.

To ask questions about Math, you can contact Reza via email at:
reza@EffortlessMath.com

Find Reza's professional profile at:
goo.gl/zoC9rJ

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Chapter 1: Fundamentals and Building Blocks

1–1 Real numbers

1–2 The order of operation

1–3 Scientific notation

1–4 Exponents operations

1–5 Evaluating expressions

1–6 Simplifying algebraic expressions

1– 1 Real numbers

Perform the operations.

1) $3.56 - 2.23$

2) $5.2 \times 2.3 \div 4$

3) $(2.2)(-5)(-3.2)$

4) $\frac{7}{9} \div \frac{3}{5}$

5) $3\frac{3}{4} \div 4$

6) $2\frac{2}{5} - 3\frac{1}{5}$

7) $-11 + (-4) - (-12)$

8) $\frac{1}{2} + \frac{1}{3} - \frac{1}{6}$

9) $-23 - 14 + (-8)$

10) $-4 - (-13) - 11$

11) Subtract -5 from the sum of 2 and -5.

12) Find the product of 8 and 11.

13) Find the quotient of 64 and 8.

14) Find the quotient of $-\frac{2}{3}$ and 10.

15) Find the product of $-\frac{1}{4}$ and 8.

1– 2 The order of operation

Evaluate each expression.

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

2) $24 - (3 \times 3)$

3) $(6 \times 4) + 8$

4) $25 - (4 \times 2)$

5) $(6 \times 5) + 3$

6) $64 - (2 \times 4)$

7) $25 + (1 \times 8)$

8) $(6 \times 7) + 7$

9) $48 \div (4 + 4)$

10) $(7 + 11) \div (-2)$

11) $9 + (2 \times 5) + 10$

12) $(5 + 8) \times \frac{3}{5} + 2$

13) $2 \times 7 - (\frac{10}{9-4})$

14) $(12 + 2 - 5) \times 7 - 1$

15) $(\frac{7}{5-1}) \times (2 + 6) \times 2$

16) $20 \div (4 - (10 - 8))$

17) $\frac{50}{4\,(5-4)-3}$

18) $2 + (8 \times 2)$

1– 3 Scientific notation

Write each number in scientific notation.

1) 91×10^3
2) 60
3) 2000000
4) 0.0000006
5) 354000
6) 0.000325
7) 2.5
8) 0.00023
9) 56000000
10) 2000000
11) 78000000
12) 0.0000022
13) 0.00012
14) 0.004
15) 78
16) 1600
17) 1450
18) 130000
19) 60
20) 0.113
21) 0.02

1– 4 Exponents operations

Simplify the exponents.

1) $(10^4)^3$

2) $(2a^2b)^4$

3) $4^3 \cdot x^6 \cdot x^8$

4) $(5x^5y^4)(-2y^3)$

5) $(2x^4 \cdot x^3 \cdot 4)^2$

6) $x^2y \cdot 9x^6y^3$

7) $(3p^3)(-2mp^2)$

8) $\frac{a^7}{5a^3}$

9) $(\frac{14b^6}{7b^2})^2$

10) $(\frac{8nm^3}{4n^4m^5})^3$

11) $\frac{x^{18}}{x^8}$

12) $(-2x^2y^6)^5$

13) $(\frac{5x}{3x})^2$

14) $(xy)^2\ (x^2y^2)^2$

15) $\frac{6x^8}{4x^6}$

16) $(3y^3 \cdot 2y)^2$

17) $7x \cdot 5x^5$

18) $9 \cdot 9^{-3}$

19) $(3x)^2$

20) $(5x^2)(7x^2)$

1– 5 Evaluating expressions

Evaluate each using the values given.

1) $(x^2 - y) \div 4$,
use $x = 3$, $y = 2$

2) $(a + b)\, 4 - (3 - 3)$,
use $a = 2$, $b = 1$

3) $-6x + 8 - 4y - 5$,
use $x = 4$, $y = 2$

4) $a^3 - b$,
use $a = 2$, $b = 3$

5) $y^3\,(x - (x + 7 - xy) + y)$,
use $x = 5$, $y = 3$

6) $(n - m)(m + 2)$,
use $n = 3$, $m = -6$

7) $y - (y + x)$,
use $x = 5$, $z = 8$

8) $6\,(2n - 4m)$,
use $n = 5$, $m = 3$

9) $-14 + 3\,(4w + 4k)$,
use $k = 4$, $w = 6$

10) $-6 - 5\,(3f + 4k)$,
use $f = 4$, $k = 7$