8th Grade Math Workbook 2018

PARCC

The Most Comprehensive Review for the Math Section of the PARCC

Reza Nazari & Ava Ross

Let's Keep in Touch

Follow Us Online

Visit US at

www.EffortlessMath.com

https://www.facebook.com/Effortlessmath

https://goo.gl/2B6qWW

Online Math Lessons

It's easy! Here's how it works.

1- Request a FREE introductory session.

2- Meet a Math tutor online.

3- Start Learning Math in Minutes.

Send Email to: info@EffortlessMath.com

www.EffortlessMath.com

… So Much More Online!

- **FREE Math lessons**
- **More Math learning books!**
- **Online Math Tutors**

Looking for an Online Math Tutor?

Send Email to: info@EffortlessMath.com

8th Grade PARCC Math Workbook 2018

The Most Comprehensive Review for the Math Section of the PARCC TEST

By

Reza Nazari

& Ava Ross

Copyright © 2018

Reza Nazari & Ava Ross

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Ac, without permission of the author.

All inquiries should be addressed to:

info@effortlessMath.com

www.EffortlessMath.com

ISBN-13: 978-1985411807

ISBN-10: 1985411806

Published by: Effortless Math Education

www.EffortlessMath.com

Description

Effortless Math PARCC Workbook provides students with the confidence and math skills they need to succeed on the PARCC Math, providing a solid foundation of basic Math topics with abundant exercises for each topic. It is designed to address the needs of PARCC test takers who must have a working knowledge of basic Math.

This comprehensive workbook with over 2,500 sample questions and 2 complete 8th Grade PARCC tests is all your student needs to fully prepare for the PARCC Math. It will help your student learns everything they need to ace the math section of the PARCC.

There are more than 2,500 Math problems with answers in this book.
Effortless Math unique study program provides your student with an in-depth focus on the math portion of the exam, helping them master the math skills that students find the most troublesome.
This workbook contains most common sample questions that are most likely to appear in the mathematics section of the PARCC.

Inside the pages of this comprehensive workbook, students can learn basic math 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
- Math topics are grouped by category, so the students can focus on the topics they struggle on
- All solutions for the exercises are included, so you will always find the answers
- 2 Complete PARCC Math Practice Tests that reflect the format and question types on PARCC

Effortless Math PARCC Workbook is an incredibly useful tool for those who want to review all topics being covered on the PARCC test. It efficiently and effectively reinforces learning outcomes through engaging questions and repeated practice, helping students to quickly master basic Math skills.



About the Author

Reza Nazari is the author of more than 100 Math learning books including:
– Math for Super Smart Students: Fifth Graders and Older by Reza Nazari
– Math and Critical Thinking Challenges: For the Middle and High School Student
– Effortless Math Education Workbooks

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 learning Math, or participating in online Math classes, you can contact Reza via email at:
reza@learnpersianonline.com

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

Contents

Description 3

Chapter 1: Arithmetic and Number Theory 12

1–1 Simplifying Fractions 13

1–2 Adding and Subtracting Fractions 14

1–3 Multiplying and Dividing Fractions 15

1–4 Adding and Subtracting Mixed Numbers 16

1–5 Multiplying and Dividing Mixed Numbers 17

1–6 Adding and Subtracting Decimals 18

1–7 Multiplying and Dividing Decimals 19

1–8 Converting Between Fractions, Decimals and Mixed Numbers 20

1–9 Rounding Numbers 21

1–10 Factoring Numbers 22

1–11 Prime Factorization 23

1–12 Greatest Common Factor 24

1–13 Least Common Multiple 25

1–14 Divisibility Rules 26

1–15 Classify Numbers 27

Answers of Worksheets – Chapter 1 28

Chapter 2: Real Numbers and Integers 35

2–1 Adding and Subtracting Integers 36

2–2 Multiplying and Dividing Integers 37

2–3 Ordering Integers and Numbers 38

2–4 Arrange, Order, and Comparing Integers 39

2–5 Order of Operations 40

2–6 Mixed Integer Computations 41

2–7 Absolute Value 42

2–8 Integers and Absolute Value 43
2–9 Classifying Real Numbers Venn Diagram 44
Answers of Worksheets – Chapter 2 45
Chapter 3: Proportions and Ratios 49
3–1 Writing Ratios 50
3–2 Simplifying Ratios 51
3–3 Proportional Ratios 52
3–4 Create a Proportion 53
3–5 Similar Figures 54
3–6 Similar Figure Word Problems 55
3–7 Complete the Ratio Table 56
3–8 Ratio and Rates Word Problems 57
Answers of Worksheets – Chapter 3 58
Chapter 4: Percent 61
4–1 Converting Between Percent, Fractions, and Decimals 62
4–2 Table of Common Percent 63
4–3 Percentage Calculations 64
4–4 Find What Percentage a Number Is of Another 65
4–5 Find a Percentage of a Given Number 66
4–6 Percent Problems 67
4–7 Percent of Increase and Decrease 68
4–8 Markup, Discount, and Tax 69
4–9 Simple Interest 70
Answers of Worksheets – Chapter 4 72
Chapter 5: Algebraic Expressions 76
5–1 Expressions and Variables 77
5–2 Simplifying Variable Expressions 78
5–3 The Distributive Property 79

5–4 Translate Phrases into an Algebraic Statement 80
5–5 Evaluating One Variable 81
5–6 Evaluating Two Variables 82
5–7 Combining like Terms 83
5–8 Simplifying Polynomial Expressions 84
Answers of Worksheets – Chapter 5 85
Chapter 6: Equations 88
6–1 One–Step Equations 89
6–2 One–Step Equation Word Problems 90
6–3 Two–Step Equations 91
6–4 Two–Step Equation Word Problems 92
6–5 Multi–Step Equations 93
Answers of Worksheets – Chapter 6 94
Chapter 7: Systems of Equations 96
7–1 Solving Systems of Equations by Graphing 97
7–2 Solving Systems of Equations by Substitution 98
7–3 Solving Systems of Equations by Elimination 99
7–4 Systems of Equations Word Problems 100
Answers of Worksheets – Chapter 7 101
Chapter 8: Inequalities 103
8–1 Graphing Single – Variable Inequalities 104
8–2 One–Step Inequalities 105
8–3 Two–Step Inequalities 106
8–4 Multi–Step Inequalities 107
Answers of Worksheets – Chapter 8 108
Chapter 9: Linear Functions 111
9–1 Finding Slope 112
9–2 Graphing Lines Using Slope–Intercept Form 113

9–3 Graphing Lines Using Standard Form....114
9–4 Writing Linear Equations....115
9–5 Graphing Linear Inequalities....116
9–6 Finding Midpoint....117
9–7 Finding Distance of Two Points....118
9–8 Slope and Rate of Change....119
9–9 Find the Slope, X–intercept and Y–intercept....120
9–10 Write an Equation from a Graph....121
9–11 Slope–intercept Form....122
9–12 Standard Form....123
9–13 Point–slope Form....124
9–14 Equations of Horizontal and Vertical Lines....125
9–15 Equation of Parallel or Perpendicular Lines....126
9–16 Graphing Absolute Value Equations....127
Answers of Worksheets – Chapter 9....128
Chapter 10: Exponents and Radicals....140
10–1 Multiplication Property of Exponents....141
10–2 Division Property of Exponents....142
10–3 Powers of Products and Quotients....143
10–4 Zero and Negative Exponents....144
10–5 Negative Exponents and Negative Bases....145
10–6 Writing Scientific Notation....146
10–7 Square Roots....147
Answers of Worksheets – Chapter 10....148
Chapter 11: Monomials and Polynomials....152
11–1 Classifying Polynomials....153
11–2 Writing Polynomials in Standard Form....154
11–3 Simplifying Polynomials....155

11–4 Add and Subtract monomials....156
11–5 Multiplying Monomials....157
11–6 Multiplying and Dividing Monomials....158
11–7 Factor out a monomial....159
11–8 GCF of monomials....160
11–9 Powers of monomials....161
11–10 Multiplying a Polynomial and a Monomial....162
11–11 Multiplying Binomials....163
11–12 Factoring Trinomials....164
Answers of Worksheets – Chapter 11....165
Chapter 12: Plane Figures....170
12–1 Transformations: Translations, Rotations, and Reflections....171
12–2 The Pythagorean Theorem....172
12–3 Classifying Triangles and Quadrilaterals....173
12–4 Area of Triangles....174
12–5 Perimeter of Polygons....175
12–6 Area and Circumference of Circles....176
12–7 Area of Squares, Rectangles, and Parallelograms....177
12–8 Area of Trapezoids....178
Answers of Worksheets – Chapter 12....179
Chapter 13: Solid Figures....182
13–1 Classifying Solids....183
13–2 Volume of Cubes and Rectangle Prisms....184
13–3 Surface Area of Cubes....185
13–4 Surface Area of a Prism....186
13–5 Volume of Pyramids and Cones....187
13–6 Surface Area of Pyramids and Cones....188
Answers of Worksheets – Chapter 13....189

Chapter 14: Statistics 190
14–1 Mean, Median, Mode, and Range of the Given Data 191
14–2 First Quartile, Second Quartile and Third Quartile of the Given Data 192
14–3 Bar Graph 193
14–4 Box and Whisker Plots 194
14–5 Stem–And–Leaf Plot 195
14–6 The Pie Graph or Circle Graph 196
14–7 Scatter Plots 197
Answers of Worksheets – Chapter 14 198
Chapter 15: Probability 202
15–1 Probability of Simple Events 203
15–2 Experimental Probability 204
15–3 Independent and Dependent Events Word Problems 205
15–4 Factorials 206
15–5 Permutations 207
15–6 Combination 208
Answers of Worksheets – Chapter 15 209
All Mathematics Formulas an 8th grade student Must Know! 211
Mathematics Formula Sheet 212
PARCC Practice Test 1 229
PARCC Practice Test 2 256
PARCC Practice Tests Answer Keys 281

Chapter 1: Arithmetic and Number Theory

1–1 Simplifying Fractions

1–2 Adding and Subtracting Fractions

1–3 Multiplying and Dividing Fractions

1–4 Adding and Subtracting Mixed Numbers

1–5 Multiplying and Dividing Mixed Numbers

1–6 Adding and Subtracting Decimals

1–7 Multiplying and Dividing Decimals

1–8 Converting Between Fractions, Decimals and Mixed Numbers

1–9 Rounding Numbers

1–10 Factoring Numbers

1–11 Prime Factorization

1–12 Greatest Common Factor

1–13 Least Common Multiple

1–14 Divisibility Rules

1–15 Classify Numbers

1–1 Simplifying Fractions

Simplify the fractions.

1) $\frac{22}{36}$

2) $\frac{8}{10}$

3) $\frac{12}{18}$

4) $\frac{6}{8}$

5) $\frac{13}{39}$

6) $\frac{5}{20}$

7) $\frac{16}{36}$

8) $\frac{18}{36}$

9) $\frac{20}{50}$

10) $\frac{6}{54}$

11) $\frac{45}{81}$

12) $\frac{21}{28}$

13) $\frac{35}{56}$

14) $\frac{52}{64}$

15) $\frac{13}{65}$

16) $\frac{44}{77}$

17) $\frac{21}{42}$

18) $\frac{15}{36}$

19) $\frac{9}{24}$

20) $\frac{20}{80}$

21) $\frac{25}{45}$

1–2 Adding and Subtracting Fractions

Add fractions.

1) $\frac{2}{3}+\frac{1}{2}$

2) $\frac{3}{5}+\frac{1}{3}$

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

4) $\frac{7}{4}+\frac{5}{9}$

5) $\frac{2}{5}+\frac{1}{5}$

6) $\frac{3}{7}+\frac{1}{2}$

7) $\frac{3}{4}+\frac{2}{5}$

8) $\frac{2}{3}+\frac{1}{5}$

9) $\frac{16}{25}+\frac{3}{5}$

Subtract fractions.

10) $\frac{4}{5}-\frac{2}{5}$

11) $\frac{3}{5}-\frac{2}{7}$

12) $\frac{1}{2}-\frac{1}{3}$

13) $\frac{8}{9}-\frac{3}{5}$

14) $\frac{3}{7}-\frac{3}{14}$

15) $\frac{4}{15}-\frac{1}{10}$

16) $\frac{3}{4}-\frac{13}{18}$

17) $\frac{5}{8}-\frac{2}{5}$

18) $\frac{1}{2}-\frac{1}{9}$

1–3 Multiplying and Dividing Fractions

Multiplying fractions. Then simplify.

1) $\frac{1}{5} \times \frac{2}{3}$

2) $\frac{3}{4} \times \frac{2}{3}$

3) $\frac{2}{5} \times \frac{3}{7}$

4) $\frac{3}{8} \times \frac{1}{3}$

5) $\frac{3}{5} \times \frac{2}{5}$

6) $\frac{7}{9} \times \frac{1}{3}$

7) $\frac{2}{3} \times \frac{3}{8}$

8) $\frac{1}{4} \times \frac{1}{3}$

9) $\frac{5}{7} \times \frac{7}{12}$

Dividing fractions.

10) $\frac{2}{9} \div \frac{1}{4}$

11) $\frac{1}{2} \div \frac{1}{3}$

12) $\frac{6}{11} \div \frac{3}{4}$

13) $\frac{11}{14} \div \frac{1}{10}$

14) $\frac{3}{5} \div \frac{5}{9}$

15) $\frac{1}{2} \div \frac{1}{2}$

16) $\frac{3}{5} \div \frac{1}{5}$

17) $\frac{12}{21} \div \frac{3}{7}$

18) $\frac{5}{14} \div \frac{9}{10}$

1–4 Adding and Subtracting Mixed Numbers

Add.

1) $4\frac{1}{2}+5\frac{1}{2}$

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

3) $5\frac{3}{5}+5\frac{1}{5}$

4) $1\frac{1}{3}+2\frac{2}{3}$

5) $5\frac{1}{6}+5\frac{1}{2}$

6) $3\frac{1}{3}+1\frac{1}{3}$

7) $1\frac{10}{11}+1\frac{1}{3}$

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

9) $5\frac{3}{5}+5\frac{1}{5}$

10) $7+\frac{1}{5}$

11) $1\frac{5}{7}+\frac{1}{3}$

12) $2\ \frac{1}{4}+1\frac{2}{4}$

Subtract.

13) $4\frac{1}{2}-\ 3\frac{1}{2}$

14) $3\frac{3}{8}-\ 3\frac{1}{8}$

15) $6\frac{3}{5}-\ 5\frac{1}{5}$

16) $2\frac{1}{3}-\ 1\frac{2}{3}$

17) $6\frac{1}{6}-\ 5\frac{1}{2}$

18) $3\frac{1}{3}-\ 1\frac{1}{3}$

19) $2\frac{10}{11}-\ 1\frac{1}{3}$

20) $2\frac{1}{2}-\ 1\frac{1}{2}$

21) $6\frac{3}{5}-\ 2\frac{1}{5}$

22) $7\frac{2}{5}-1\frac{1}{5}$

23) $2\frac{5}{7}-1\frac{1}{3}$

24) $2\ \frac{1}{4}-\ 1\frac{1}{2}$