Effortless Math Education

7th Grade SBAC Math Workbook 2018

The Most Comprehensive Review for the Math Section of the SBAC

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

7th Grade SBAC Math Workbook 2018

The Most Comprehensive Review for the Math Section of the SBAC 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: 978-1985316744

ISBN-10: 1985316749

Published by: Effortless Math Education

www.EffortlessMath.com

Description

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

This comprehensive workbook with over 2,500 sample questions and 2 complete 7th Grade SBAC tests is all your student needs to fully prepare for the SBAC Math. It will help your student learns everything they need to ace the math section of the SBAC.

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 SBAC.

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 SBAC Math Practice Tests that reflect the format and question types on SBAC

Effortless Math SBAC Workbook is an incredibly useful tool for those who want to review all topics being covered on the SBAC 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 50 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 Math, you can contact Reza via email at:
reza@EffortlessMath.com

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

Contents

Description 2
Chapter 1: Arithmetic and Number Theory 10
1–1 Simplifying Fractions 11
1–2 Adding and Subtracting Fractions 12
1–3 Multiplying and Dividing Fractions 13
1–4 Adding and Subtracting Mixed Numbers 14
1–5 Multiplying and Dividing Mixed Numbers 15
1–6 Adding and Subtracting Decimals 16
1–7 Multiplying and Dividing Decimals 17
1–8 Converting Between Fractions, Decimals and Mixed Numbers 18
1–9 Rounding Numbers 19
1–10 Factoring Numbers 20
1–11 Prime Factorization 21
1–12 Greatest Common Factor 22
1–13 Least Common Multiple 23
1–14 Divisibility Rules 24
Answers of Worksheets – Chapter 1 25
Chapter 2: Real Numbers and Integers 32
2–1 Adding and Subtracting Integers 33
2–2 Multiplying and Dividing Integers 34
2–3 Ordering Integers and Numbers 35
2–4 Arrange, Order, and Comparing Integers 36
2–5 Order of Operations 37
2–6 Mixed Integer Computations 38
2–7 Absolute Value 39
2–8 Integers and Absolute Value 40
2–9 Classifying Real Numbers Venn Diagram 41

Answers of Worksheets – Chapter 2 42
Chapter 3: Proportions and Ratios 45
3–1 Writing Ratios 46
3–2 Simplifying Ratios 47
3–3 Proportional Ratios 48
3–4 Create a Proportion 49
3–5 Similar Figures 50
3–6 Similar Figure Word Problems 51
3–7 Complete the Ratio Table 52
3–8 Ratio and Rates Word Problems 53
Answers of Worksheets – Chapter 3 54
Chapter 4: Percent 57
4–1 Converting Between Percent, Fractions, and Decimals 58
4–2 Table of Common Percent 59
4–3 Percentage Calculations 60
4–4 Find What Percentage a Number Is of Another 61
4–5 Find a Percentage of a Given Number 62
4–6 Percent Problems 63
4–7 Percent of Increase and Decrease 64
4–8 Markup, Discount, and Tax 65
Answers of Worksheets – Chapter 4 66
Chapter 5: Algebraic Expressions 70
5–1 Expressions and Variables 71
5–2 Simplifying Variable Expressions 72
5–3 The Distributive Property 73
5–4 Translate Phrases into an Algebraic Statement 74
5–5 Evaluating One Variable 75
5–6 Evaluating Two Variables 76

5–7 Combining like Terms....77
5–8 Simplifying Polynomial Expressions....78
Answers of Worksheets – Chapter 5....79
Chapter 6: Equations....82
6–1 One–Step Equations....83
6–2 One–Step Equation Word Problems....84
6–3 Two–Step Equations....85
6–4 Two–Step Equation Word Problems....86
6–5 Multi–Step Equations....87
Answers of Worksheets – Chapter 6....88
Chapter 7: Systems of Equations....90
7–1 Solving Systems of Equations by Graphing....91
7–2 Solving Systems of Equations by Substitution....92
7–3 Solving Systems of Equations by Elimination....93
7–4 Systems of Equations Word Problems....94
Answers of Worksheets – Chapter 7....95
Chapter 8: Inequalities....97
8–1 Graphing Single – Variable Inequalities....98
8–2 One–Step Inequalities....99
8–3 Two–Step Inequalities....100
8–4 Multi–Step Inequalities....101
Answers of Worksheets – Chapter 8....102
Chapter 9: Linear Functions....105
9–1 Finding Slope....106
9–2 Graphing Lines Using Slope–Intercept Form....107
9–3 Graphing Lines Using Standard Form....108
9–4 Writing Linear Equations....109
9–5 Graphing Linear Inequalities....110

Answers of Worksheets – Chapter 9 111
Chapter 10: Exponents and Radicals 116
10–1 Multiplication Property of Exponents 117
10–2 Division Property of Exponents 118
10–3 Powers of Products and Quotients 119
10–4 Zero and Negative Exponents 120
10–5 Negative Exponents and Negative Bases 121
10–6 Writing Scientific Notation 122
10–7 Square Roots 123
Answers of Worksheets – Chapter 10 124
Chapter 11: Plane Figures 127
11–1 Transformations: Translations, Rotations, and Reflections 128
11–2 The Pythagorean Theorem 129
11–3 Classifying Triangles and Quadrilaterals 130
11–4 Area of Triangles 131
11–5 Perimeter of Polygons 132
11–6 Area and Circumference of Circles 133
11–7 Area of Squares, Rectangles, and Parallelograms 134
11–8 Area of Trapezoids 135
Answers of Worksheets – Chapter 11 136
Chapter 12: Solid Figures 139
12–1 Classifying Solids 140
12–2 Volume of Cubes and Rectangle Prisms 141
12–3 Surface Area of Cubes 142
12–4 Surface Area of a Prism 143
Answers of Worksheets – Chapter 12 144
Chapter 13: Statistics 145
13–1 Mean, Median, Mode, and Range of the Given Data 146

13–2 First Quartile, Second Quartile and Third Quartile of the Given Data.....147
13–3 Bar Graph.....148
13–4 Box and Whisker Plots.....149
13–5 Stem–And–Leaf Plot.....150
13–6 The Pie Graph or Circle Graph.....151
13–7 Scatter Plots.....152
Answers of Worksheets – Chapter 13.....153
All Mathematics Formulas a 7th grade student Must Know!.....157
Mathematics Formula Sheet.....158
SBAC Math Practice Tests.....176
SBAC Practice Test 1.....177
SBAC Practice Test 2.....188
SBAC Practice Tests Answer keys.....201

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

1–1 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) $2\ \frac{1}{4}-\ 1\frac{1}{2}$

1–5 Multiplying and Dividing Mixed Numbers

Find each product.

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

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

3) $1\frac{2}{3} \times 3\frac{2}{7}$

4) $4\frac{1}{8} \times 1\frac{2}{5}$

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

6) $1\frac{1}{3} \times 1\frac{2}{3}$

7) $1\frac{5}{8} \times 2\frac{1}{2}$

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

9) $2\frac{2}{3} \times 4\frac{1}{4}$

10) $2\frac{3}{5} \times 1\frac{2}{4}$

11) $1\frac{1}{3} \times 1\frac{1}{4}$

12) $3\frac{2}{5} \times 1\frac{1}{5}$

Find each quotient.

13) $2\frac{1}{5} \div 2\frac{1}{2}$

14) $2\frac{3}{5} \div 1\frac{1}{3}$

15) $3\frac{1}{6} \div 4\frac{2}{3}$

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

17) $4\frac{1}{8} \div 2\frac{2}{4}$

18) $3\frac{1}{2} \div 2\frac{3}{5}$

19) $3\frac{5}{9} \div 1\frac{2}{5}$

20) $2\frac{2}{7} \div 1\frac{1}{2}$

21) $3\frac{1}{5} \div 1\frac{1}{2}$

22) $4\frac{3}{5} \div 2\frac{1}{3}$

23) $6\frac{1}{6} \div 1\frac{2}{3}$

24) $2\frac{2}{3} \div 1\frac{1}{3}$

1–6 Adding and Subtracting Decimals

Add and subtract decimals.

1) $\begin{array}{r} 15.14 \\ -\ 12.18 \\ \hline \end{array}$

2) $\begin{array}{r} 65.72 \\ +\ 43.67 \\ \hline \end{array}$

3) $\begin{array}{r} 82.56 \\ +\ 12.28 \\ \hline \end{array}$

4) $\begin{array}{r} 34.18 \\ -\ 23.45 \\ \hline \end{array}$

5) $\begin{array}{r} 90.37 \\ +\ 56.97 \\ \hline \end{array}$

6) $\begin{array}{r} 45.78 \\ -\ 23.39 \\ \hline \end{array}$

Solve.

7) ____ + 1.3 = 4.8

8) 4.2 + ____ = 11.6

9) 9.9 + ____ = 16

10) 6.9 + ____ = 16.4

11) ____ + 5.1 = 8.6

12) ____ + 7.9 = 15.2