TSI Math in 7 Days

Contains All The Math You Will Ever Need To ACE the TSI Math Test

2 Full-Length TSI Math Practice Tests

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

TSI Math in 7 Days

Step–By–Step Guide to Preparing for the TSI Math Test Quickly

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: 978-1720435723

ISBN-10: 1720435723

Published by: Effortless Math Education

www.EffortlessMath.com

Description

The goal of this book is simple. It will help you incorporate the best method and the right strategies to prepare for the TSI Math FAST and EFFECTIVELY.

TSI Math in 7 Days is full of specific and detailed material that will be key to succeeding on the TSI Math. It's filled with the critical math concepts a student will need in order to pass the test. Math concepts in this book break down the topics, so the material can be quickly grasped. Examples are worked step–by–step, so you learn exactly what to do.

TSI Math in 7 Days helps you to focus on all Math topics that you will need to pass the TSI Math test. You only need to spend about 3 – 4 hours daily in your 7–day period in order to pass the test. This book with 2 complete TSI tests is all you will ever need to fully prepare for the TSI Math.

This workbook includes practice test questions. It contains easy–to–read essential summaries that highlight the key areas of the TSI Math test. Effortless Math test study guide reviews the most important components of the TSI Math test. Anyone planning to take the TSI Math test should take advantage of the review material and practice test questions contained in this study guide.

Whether you are intimidated by math, or even if you were the first to raise your hand in the Math classes, this book can help you accelerate the learning process and put you on the right track.

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

TSI Math in 7 Days is a breakthrough in Math learning — offering a winning formula and the most powerful methods for learning basic Math topics confidently. Each section offers step–by–step instruction and helpful hints, with a few topics being tackled each day. Two complete REAL TSI Math tests are provided at the back of the book to refine your Math skills.

Effortlessly and confidently follow the step–by–step instructions in this book to prepare for the TSI Math in a short period of time.

TSI Math in 7 Days **is the only book you'll ever need to master Basic Math topics!** It can be used as a self–study course – you do not need to work with a Math tutor. (It can also be used with a Math tutor).

You'll be surprised how fast you master the Math topics covering on TSI Math Test.

Ideal for self–study as well as for classroom usage.



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
– GRE 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

Contents

Day 1: Fundamentals and Building Blocks 11

Simplifying Fractions 12
Adding and Subtracting Fractions 13
Multiplying and Dividing Fractions 14
Adding Mixed Numbers 15
Subtract Mixed Numbers 16
Multiplying Mixed Numbers 17
Dividing Mixed Numbers 18
Comparing Decimals 19
Rounding Decimals 20
Adding and Subtracting Decimals 21
Multiplying and Dividing Decimals 22
Converting Between Fractions, Decimals and Mixed Numbers 23
Factoring Numbers 24
Greatest Common Factor 25
Least Common Multiple 26
Adding and Subtracting Integers 27
Multiplying and Dividing Integers 28
Answers of Worksheets – Day 1 29

Day 2: Proportions and Variables 35

Ordering Integers and Numbers 36
Arrange, Order, and Comparing Integers 37
Order of Operations 38
Mixed Integer Computations 39
Integers and Absolute Value 40
Writing Ratios 41
Simplifying Ratios 42
Create a Proportion 43
Similar Figures 44
Simple Interest 45
Ratio and Rates Word Problems 46

Percentage Calculations 47
Converting Between Percent, Fractions, and Decimals 48
Percent Problems 49
Markup, Discount, and Tax 50
Expressions and Variables 51
Simplifying Variable Expressions 52
Simplifying Polynomial Expressions 53
Translate Phrases into an Algebraic Statement 54
Answers of Worksheets – Day 3 55
Day 3: Equations and Inequalities 60
The Distributive Property 61
Evaluating One Variable 62
Evaluating Two Variables 63
Combining like Terms 64
One–Step Equations 65
Two–Step Equations 66
Multi–Step Equations 67
Graphing Single–Variable Inequalities 68
One–Step Inequalities 69
Two–Step Inequalities 70
Multi–Step Inequalities 71
Finding Slope 72
Graphing Lines Using Slope–Intercept Form 73
Graphing Lines Using Standard Form 74
Writing Linear Equations 75
Graphing Linear Inequalities 76
Finding Midpoint 77
Finding Distance of Two Points 78
Answers of Worksheets – Day 4 79
Day 4: Monomials and Polynomials 86
Classifying Polynomials 87
Writing Polynomials in Standard Form 88

Simplifying Polynomials 89
Adding and Subtracting Polynomials 90
Multiplying Monomials 91
Multiplying and Dividing Monomials 92
Multiplying a Polynomial and a Monomial 93
Multiplying Binomials 94
Factoring Trinomials 95
Operations with Polynomials 96
Solve a Quadratic Equation 97
Is (x, y) a solution to the system of equations? 98
Solving Systems of Equations 99
Answers of Worksheets – Day 5 100
Day 5: Exponents, Roots and Statistics 104
Multiplication Property of Exponents 105
Division Property of Exponents 106
Powers of Products and Quotients 107
Zero and Negative Exponents 108
Negative Exponents and Negative Bases 109
Writing Scientific Notation 110
Square Roots 111
Mean, Median, Mode, and Range of the Given Data 112
Box and Whisker Plots 113
Bar Graph 114
Stem–And–Leaf Plot 115
The Pie Graph or Circle Graph 116
Scatter Plots 117
Probability Problems 118
Answers of Worksheets – Day 6 119
Day 6: Geometry 125
The Pythagorean Theorem 126
Area of Triangles 127
Perimeter of Polygons 128

Area and Circumference of Circles 129
Area of Squares, Rectangles, and Parallelograms 130
Area of Trapezoids 131
Volume 132
Volume of Rectangle Prisms 133
Surface Area of Cubes 134
Surface Area of a Rectangle Prism 135
Volume of a Cylinder 136
Surface Area of a Cylinder 137
Answers of Worksheets – Day 7 138
Day 7: Geometry and Conic Sections 140
Sketch each angle in standard position 141
Finding co–terminal angles and reference angles 142
Writing each measure in radians 143
Writing each measure in degrees 144
Evaluating each trigonometric 145
Missing sides and angles of a right triangle 146
Arc length and sector area 147
Trig ratios of general angles 148
Finding the Focus, Vertex, and Directrix of a Parabola 149
Writing the Standard Form of a Circle 150
Finding the Center and the Radius of Circles 151
Arithmetic Sequences 152
Geometric Sequences 153
Answers of Worksheets – Day 7 154
TSI Mathematics Practice Tests 161
Time to Test 163
TSI Mathematics Practice Test 1 164
TSI Mathematics Practice Test 2 174
TSI Math Practice Test 1 Answer Key 184
TSI Math Practice Test 2 Answer Key 185
TSI Mathematics Practice Test 1 Answers and Explanations 186

TSI Mathematics Practice Test 2 Answers and Explanations 190

Day 1: Fundamentals and Building Blocks

Math Topics that you'll learn today:

- ✓ Simplifying Fractions
- ✓ Adding and Subtracting Fractions
- ✓ Multiplying and Dividing Fractions
- ✓ Adding Mixed Numbers
- ✓ Subtracting Mixed Numbers
- ✓ Multiplying Mixed Numbers
- ✓ Dividing Mixed Numbers
- ✓ Comparing Decimals
- ✓ Rounding Decimals
- ✓ Adding and Subtracting Decimals
- ✓ Multiplying and Dividing Decimals
- ✓ Converting Between Fractions, Decimals and Mixed Numbers
- ✓ Divisibility Rules
- ✓ Factoring Numbers
- ✓ Greatest Common Factor
- ✓ Least Common Multiple
- ✓ Adding and Subtracting Integers
- ✓ Multiplying and Dividing Integers

"If people do not believe that mathematics is simple, it is only because they do not realize how complicated life is." — John von Neumann

Simplifying Fractions

Helpful Hints

– Evenly divide both the top and bottom of the fraction by 2, 3, 5, 7, ... etc.
– Continue until you can't go any further.

Example:

$$\frac{4}{12} = \frac{2}{6} = \frac{1}{3}$$

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) $\frac{25}{45}$

Adding and Subtracting Fractions

Helpful Hints

– For "like" fractions (fractions with the same denominator), add or subtract the numerators and write the answer over the common denominator.

– Find equivalent fractions with the same denominator before you can add or subtract fractions with different denominators.

– Adding and Subtracting with the same denominator:

$$\frac{a}{b}+\frac{c}{b}=\frac{a+c}{b}$$
$$\frac{a}{b}-\frac{c}{b}=\frac{a-c}{b}$$

– Adding and Subtracting fractions with different denominators:

$$\frac{a}{b}+\frac{c}{d}=\frac{ad+cb}{bd}$$
$$\frac{a}{b}-\frac{c}{d}=\frac{ad-cb}{bd}$$

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

Multiplying and Dividing Fractions

Helpful Hints

– **Multiplying fractions:** multiply the top numbers and multiply the bottom numbers.

– **Dividing fractions:** Keep, Change, Flip

Keep first fraction, change division sign to multiplication, and flip the numerator and denominator of the second fraction. Then, solve!

Example:

$$\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times \mathrm{d}}$$

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{ad}{bc}$$

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

Adding Mixed Numbers

Helpful Hints

Use the following steps for both adding and subtracting mixed numbers.

– Find the Least Common Denominator (LCD)
– Find the equivalent fractions for each mixed number.
– Add fractions after finding common denominator.
– Write your answer in lowest terms.

Example:

$1\frac{3}{4} + 2\frac{3}{8} = 4\frac{1}{8}$

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 Mixed Numbers

Helpful Hints

Use the following steps for both adding and subtracting mixed numbers.

Find the Least Common Denominator (LCD)
– Find the equivalent fractions for each mixed number.
– Add or subtract fractions after finding common denominator.
– Write your answer in lowest terms.

Example:

$5\frac{2}{3} - 3\frac{2}{7} = 2\frac{8}{21}$

Subtract.

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

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

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

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

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

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

7) $2\frac{10}{11} - 1\frac{1}{3}$

8) $2\frac{1}{2} - 1\frac{1}{2}$

9) $6\frac{3}{5} - 2\frac{1}{5}$

10) $7\frac{2}{5} - 1\frac{1}{5}$

11) $2\frac{5}{7} - 1\frac{1}{3}$

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