

Student Workbook

and Two Realistic ISEE Middle Level Math Practice Tests

ISEE Middle Level

Math Exercise Book 2019

- Content 100% aligned with the 2019 ISEE Middle Level test
- Written by ISEE Middle Level Math tutors and test experts
- Complete coverage of all ISEE Middle Level Math concepts and topics which you will be tested
- Over 2,500 additional ISEE Middle Level math practice questions
- Abundant Math skill building exercises

2 full-length ISEE Middle Level Math practice tests with detailed answers

Reza Nazari & Ava Ross

www.EffortlessMath.com

… So Much More Online!

- ✓ FREE Math lessons
- ✓ More Math learning books!
- ✓ Mathematics Worksheets
- ✓ Online Math Tutors

Need a PDF version of this book?

Please visit www.EffortlessMath.com

ISEE Middle Level Math Exercise Book

Student Workbook and Two Realistic ISEE Middle Level Math Tests

By

Reza Nazari & Ava Ross

Copyright © 2019

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: 978-1-970036-42-8

ISBN-10: 1-970036-42-7

Published by: Effortless Math Education

www.EffortlessMath.com

Description

Get ready for the ISEE Middle Level Math Test with a PERFECT Math Workbook!

ISEE Middle Level Math Exercise book, which reflects the 2019 test guidelines and topics, is dedicated to preparing test takers to ace the ISEE Middle Level Math Test. This ISEE Middle Level Math workbook's new edition has been updated to replicate questions appearing on the most recent ISEE Middle Level Math tests. Here is intensive preparation for the ISEE Middle Level Math test, and a precious learning tool for test takers who need extra practice in math to raise their ISEE Middle Level Math scores. After completing this workbook, you will have solid foundation and adequate practice that is necessary to ace the ISEE Middle Level Math test. **This workbook is your ticket to score higher on ISEE Middle Level Math.**

The updated version of this hands-on workbook represents extensive exercises, math problems, sample ISEE Middle Level 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 ISEE Middle Level exam on test day.

Each of math exercises is answered in the book and we have provided explanation of the answers for the two full-length ISEE Middle Level Math practice tests as well which will help test takers find their weak areas and raise their scores. This is a unique and perfect practice book to beat the ISEE Middle Level Math Test.

Separate math chapters offer a complete review of the ISEE Middle Level Math test, including:

- ✓ Arithmetic and Number Operations
- ✓ Algebra and Functions,
- ✓ Geometry and Measurement
- ✓ Data analysis, Statistics, & Probability
- ✓ … and also includes **two full-length practice tests!**

The surest way to succeed on ISEE Middle Level Math Test is with intensive practice in every math topic tested--and that's what you will get in ***ISEE Middle Level Math Exercise Book.*** Each chapter of this focused format has a comprehensive review created by Test Prep experts that goes into detail to cover all of the content likely to appear on the ISEE Middle Level Math test. Not only does this all-inclusive workbook offer everything you will ever need to conquer ISEE Middle Level Math test, it also contains two full-length and realistic ISEE Middle Level Math tests that reflect the format and question types on the ISEE Middle Level to help you check your exam-readiness and identify where you need more practice.

Effortless Math Workbook *for the ISEE Middle Level Test* contains many exciting and unique features to help you improve your test scores, including:

- ✓ Content 100% aligned with the 2019 ISEE Middle Level test
- ✓ Written by ISEE Middle Level Math tutors and test experts
- ✓ Complete coverage of all ISEE Middle Level Math concepts and topics which you will be tested
- ✓ Over 2,500 additional ISEE Middle Level 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 test-takers approach different question types that might be unfamiliar to them
- ✓ Exercises on different ISEE Middle Level Math topics such as integers, percent, equations, polynomials, exponents and radicals
- ✓ 2 full-length practice tests (featuring new question types) with detailed answers

This ISEE Middle Level Math 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 ISEE Middle Level test.

Do NOT take the ISEE Middle Level test without reviewing the Math questions in this 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.

You can contact Reza via email at:
reza@EffortlessMath.com

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

Contents

Chapter 1: Fundamental 8
Simplifying Fractions 9
Adding and Subtracting Fractions 10
Multiplying and Dividing Fractions 11
Adding and Subtracting Mixed Numbers 12
Multiplying and Dividing Mixed Numbers 13
Adding and Subtracting Decimals 14
Multiplying and Dividing Decimals 15
Comparing Decimals 16
Rounding Decimals 17
Factoring Numbers 18
Greatest Common Factor 19
Least Common Multiple 20
Answers of Worksheets – Chapter 1 21
Chapter 2: Real Numbers and Integers 25
Adding and Subtracting Integers 26
Multiplying and Dividing Integers 27
Order of Operations 28
Ordering Integers and Numbers 29
Integers and Absolute Value 30
Answers of Worksheets – Chapter 2 31
Chapter 3: Proportions, Ratios, and Percent 33
Simplifying Ratios 34
Proportional Ratios 35
Similarity and Ratios 36
Ratio and Rates Word Problems 37
Percentage Calculations 38
Percent Problems 39
Discount, Tax and Tip 40
Percent of Change 41

Answers of Worksheets – Chapter 3 42
Chapter 4: Algebraic Expressions 45
Translate Phrases into an Algebraic Statement 46
The Distributive Property 47
Evaluating One Variable Expressions 48
Evaluating Two Variables Expressions 49
Combining like Terms 50
Answers of Worksheets – Chapter 4 51
Chapter 5: Equations and Inequalities 53
One–Step Equations 54
Multi–Step Equations 55
Graphing Single–Variable Inequalities 56
One–Step Inequalities 57
Multi-Step Inequalities 58
Answers of Worksheets – Chapter 5 59
Chapter 6: Exponents and Radicals 62
Multiplication Property of Exponents 63
Zero and Negative Exponents 64
Division Property of Exponents 65
Powers of Products and Quotients 66
Negative Exponents and Negative Bases 67
Scientific Notation 68
Square Roots 69
Answers of Worksheets – Chapter 6 70
Chapter 7: Geometry and Solid Figures 73
Angles 74
Pythagorean Relationship 75
Triangles 76
Polygons 77
Trapezoids 78
Circles 79
Cubes 80

Rectangular Prism 81
Cylinder 82
Pyramids and Cones 83
Answers of Worksheets – Chapter 7 84
Chapter 8: Statistics and Probability 86
Mean and Median 87
Mode and Range 88
Histograms 89
Pie Graph 90
Probability Problems 91
Answers of Worksheets – Chapter 8 92
Chapter 9: Measurements 94
Convert Measurement Units 95
Metric Units 96
Distance Measurement 97
Weight Measurement 98
Answers of Worksheets – Chapter 9 99
ISEE Middle Level Practice Tests 101
ISEE Middle Level Practice Tests Answers and Explanations 169

Chapter 1:

Fundamental

Topics that you'll practice in this chapter:

- ✓ Simplifying Fractions
- ✓ Adding and Subtracting Fractions
- ✓ Multiplying and Dividing Fractions
- ✓ Adding and Subtract Mixed Numbers
- ✓ Multiplying and Dividing Mixed Numbers
- ✓ Adding and Subtracting Decimals
- ✓ Multiplying and Dividing Decimals
- ✓ Comparing Decimals
- ✓ Rounding Decimals
- ✓ Factoring Numbers
- ✓ Greatest Common Factor
- ✓ Least Common Multiple

"A Man is like a fraction whose numerator is what he is and whose denominator is what he thinks of himself. The larger the denominator, the smaller the fraction." –Tolstoy

Simplifying Fractions

Simplify each fraction to its lowest terms.

1) $\frac{9}{18} =$

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

3) $\frac{6}{8} =$

4) $\frac{5}{20} =$

5) $\frac{18}{24} =$

6) $\frac{6}{9} =$

7) $\frac{12}{15} =$

8) $\frac{4}{16} =$

9) $\frac{18}{36} =$

10) $\frac{6}{42} =$

11) $\frac{13}{39} =$

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

13) $\frac{63}{77} =$

14) $\frac{36}{40} =$

15) $\frac{21}{63} =$

16) $\frac{30}{84} =$

17) $\frac{50}{125} =$

18) $\frac{72}{108} =$

19) $\frac{49}{112} =$

20) $\frac{240}{320} =$

21) $\frac{120}{150} =$

Solve each problem.

22) Which of the following fractions equal to $\frac{4}{5}$? ____

A. $\frac{64}{75}$ B. $\frac{92}{115}$ C. $\frac{60}{85}$ D. $\frac{160}{220}$

23) Which of the following fractions equal to $\frac{3}{7}$? ____

A. $\frac{63}{147}$ B. $\frac{75}{182}$ C. $\frac{54}{140}$ D. $\frac{39}{98}$

24) Which of the following fractions equal to $\frac{2}{9}$? ____

A. $\frac{84}{386}$ B. $\frac{52}{234}$ C. $\frac{96}{450}$ D. $\frac{112}{522}$

Adding and Subtracting Fractions

Find the sum.

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

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

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

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

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

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

7) $\frac{5}{9}+\frac{1}{2}=$

8) $\frac{3}{5}+\frac{3}{8}=$

9) $\frac{5}{9}+\frac{3}{7}=$

10) $\frac{5}{11}+\frac{1}{4}=$

11) $\frac{3}{7}+\frac{1}{6}=$

12) $\frac{3}{14}+\frac{3}{4}=$

Find the difference.

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

14) $\frac{4}{5}-\frac{2}{3}=$

15) $\frac{2}{3}-\frac{1}{6}=$

16) $\frac{3}{5}-\frac{1}{2}=$

17) $\frac{8}{9}-\frac{2}{5}=$

18) $\frac{4}{7}-\frac{1}{9}=$

19) $\frac{2}{5}-\frac{1}{4}=$

20) $\frac{5}{8}-\frac{2}{6}=$

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

22) $\frac{7}{20}-\frac{1}{5}=$

23) $\frac{3}{18}-\frac{1}{12}=$

24) $\frac{9}{24}-\frac{3}{16}=$

25) $\frac{3}{7}-\frac{2}{5}=$

26) $\frac{5}{9}-\frac{1}{6}=$

27) $\frac{2}{5}-\frac{1}{10}=$

28) $\frac{5}{12}-\frac{2}{9}=$

29) $\frac{2}{13}-\frac{3}{7}=$

30) $\frac{4}{11}-\frac{5}{8}=$

Multiplying and Dividing Fractions

Find the value of each expression in lowest terms.

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

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

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

4) $\frac{1}{6} \times \frac{4}{5} =$

5) $\frac{1}{5} \times \frac{1}{4} =$

6) $\frac{2}{5} \times \frac{1}{2} =$

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

8) $\frac{5}{7} \times \frac{3}{8} =$

9) $\frac{8}{9} \times \frac{6}{7} =$

10) $\frac{5}{6} \times \frac{3}{5} =$

11) $\frac{3}{8} \times \frac{1}{9} =$

12) $\frac{1}{12} \times \frac{3}{7} =$

Find the value of each expression in lowest terms.

13) $\frac{1}{2} \div \frac{1}{4} =$

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

15) $\frac{2}{5} \div \frac{1}{3} =$

16) $\frac{1}{4} \div \frac{2}{3} =$

17) $\frac{1}{5} \div \frac{3}{10} =$

18) $\frac{2}{7} \div \frac{1}{3} =$

19) $\frac{3}{5} \div \frac{5}{9} =$

20) $\frac{2}{23} \div \frac{2}{9} =$

21) $\frac{4}{13} \div \frac{1}{4} =$

22) $\frac{9}{14} \div \frac{3}{7} =$

23) $\frac{8}{15} \div \frac{2}{5} =$

24) $\frac{2}{9} \div \frac{7}{11} =$

25) $\frac{2}{5} \div \frac{3}{4} =$

26) $\frac{4}{11} \div \frac{2}{5} =$

27) $\frac{2}{15} \div \frac{5}{8} =$

28) $\frac{3}{10} \div \frac{2}{5} =$

29) $\frac{4}{5} \div \frac{3}{7} =$

30) $\frac{2}{11} \div \frac{3}{5} =$

Adding and Subtracting Mixed Numbers

Find the sum.

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

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

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

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

5) $1\frac{3}{7}+1\frac{5}{14}=$

6) $6\frac{5}{12}+3\frac{3}{4}=$

7) $5\frac{1}{2}+8\frac{3}{4}=$

8) $3\frac{7}{8}+3\frac{1}{3}=$

9) $3\frac{3}{9}+7\frac{6}{11}=$

10) $7\frac{5}{12}+4\frac{3}{10}=$

Find the difference.

11) $3\frac{1}{3}-1\frac{1}{3}=$

12) $4\frac{1}{2}-3\frac{1}{2}=$

13) $5\frac{1}{2}-2\frac{1}{4}=$

14) $6\frac{1}{6}-5\frac{1}{3}=$

15) $8\frac{1}{2}-1\frac{1}{10}=$

16) $9\frac{1}{2}-2\frac{1}{4}=$

17) $9\frac{1}{5}-5\frac{1}{6}=$

18) $14\frac{3}{10}-13\frac{1}{3}=$

19) $19\frac{2}{3}-11\frac{5}{8}=$

20) $20\frac{3}{4}-14\frac{2}{3}=$

21) $2\frac{1}{2}-1\frac{1}{5}=$

22) $3\frac{1}{6}-1\frac{1}{10}=$

23) $16\frac{2}{7}-11\frac{2}{3}=$

24) $15\frac{1}{7}-10\frac{1}{8}=$

25) $12\frac{3}{4}-7\frac{1}{3}=$

26) $15\frac{2}{5}-5\frac{2}{3}=$

Multiplying and Dividing Mixed Numbers

Find the product.

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

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

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

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

5) $3\frac{4}{7} \times 2\frac{3}{5} =$

6) $7\frac{2}{3} \times 2\frac{2}{3} =$

7) $9\frac{8}{9} \times 8\frac{3}{4} =$

8) $2\frac{4}{7} \times 5\frac{2}{9} =$

9) $5\frac{2}{5} \times 2\frac{3}{5} =$

10) $3\frac{5}{7} \times 3\frac{5}{6} =$

Find the quotient.

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

12) $2\frac{1}{4} \div 1\frac{1}{2} =$

13) $10\frac{1}{2} \div 1\frac{2}{3} =$

14) $3\frac{1}{6} \div 4\frac{2}{3} =$

15) $4\frac{1}{8} \div 2\frac{1}{2} =$

16) $2\frac{1}{10} \div 2\frac{3}{5} =$

17) $1\frac{4}{11} \div 1\frac{1}{4} =$

18) $9\frac{1}{2} \div 9\frac{2}{3} =$

19) $8\frac{3}{4} \div 2\frac{2}{5} =$

20) $12\frac{1}{2} \div 9\frac{1}{3} =$

21) $2\frac{1}{8} \div 1\frac{1}{2} =$

22) $1\frac{1}{10} \div 1\frac{3}{5} =$

23) $5\frac{2}{5} \div 1\frac{3}{4} =$

24) $5\frac{1}{2} \div 2\frac{2}{3} =$

25) $3\frac{3}{4} \div 1\frac{1}{5} =$

26) $3\frac{1}{2} \div 1\frac{1}{3} =$

Adding and Subtracting Decimals

Add and subtract decimals.

1) $31.13 - 11.45$

2) $35.25 + 24.47$

3) $73.50 + 22.78$

4) $56.67 - 44.39$

5) $71.47 + 16.25$

6) $68.99 - 53.61$

7) $66.24 - 23.11$

8) $39.75 + 12.85$

9) $229.25 - 84.67$

Find the missing number.

10) $___ + 2.5 = 3.9$

11) $1.7 + ___ = 4.98$

12) $5.25 + ___ = 7$

13) $6.55 - ___ = 2.45$

14) $___ - 3.98 = 5.32$

15) $___ - 11.67 = 14.48$

16) $12.35 + ___ = 14.78$

17) $___ - 23.89 = 13.90$

18) $___ + 17.28 = 19.56$

19) $77.90 + ___ = 102.60$

Multiplying and Dividing Decimals

Find the product.

1) $0.5 \times 0.4 =$

2) $2.5 \times 0.2 =$

3) $1.25 \times 0.5 =$

4) $0.75 \times 0.2 =$

5) $1.92 \times 0.8 =$

6) $0.55 \times 0.4 =$

7) $3.24 \times 1.2 =$

8) $12.5 \times 4.2 =$

9) $22.6 \times 8.2 =$

10) $17.2 \times 4.5 =$

11) $25.1 \times 12.5 =$

12) $33.2 \times 2.2 =$

Find the quotient.

13) $1.67 \div 100 =$

14) $52.2 \div 1{,}000 =$

15) $4.2 \div 2 =$

16) $8.6 \div 0.5 =$

17) $12.6 \div 0.2 =$

18) $16.5 \div 5 =$

19) $13.25 \div 100 =$

20) $25.6 \div 0.4 =$

21) $28.24 \div 0.1 =$

22) $34.16 \div 0.25 =$

23) $44.28 \div 0.5 =$

24) $38.78 \div 0.02 =$

Comparing Decimals

Write the correct comparison symbol (>, < or =).

1) 0.50 ☐ 0.050

2) 0.025 ☐ 0.25

3) 2.060 ☐ 2.07

4) 1.75 ☐ 1.07

5) 4.04 ☐ 0.440

6) 3.05 ☐ 3.5

7) 5.05 ☐ 5.050

8) 1.02 ☐ 1.1

9) 2.45 ☐ 2.125

10) 0.932 ☐ 0.0932

11) 3.15 ☐ 3.150

12) 0.718 ☐ 0.89

13) 7.060 ☐ 7.60

14) 3.59 ☐ 3.129

15) 4.33 ☐ 4.319

16) 2.25 ☐ 2.250

17) 1.95 ☐ 1.095

18) 8.051 ☐ 8.50

19) 1.022 ☐ 1.020

20) 3.77 ☐ 3.770

Rounding Decimals

Round each decimal to the nearest whole number.

1) 23.18
2) 8.6
3) 14.45
4) 7.5
5) 3.95
6) 56.7

Round each decimal to the nearest tenth.

7) 22.652
8) 30.342
9) 47.847
10) 82.88
11) 16.184
12) 71.79

Round each decimal to the nearest hundredth.

13) 5.439
14) 12.907
15) 26.1855
16) 48.623
17) 91.448
18) 29.354

Round each decimal to the nearest thousandth.

19) 14.67374
20) 7.54647
21) 78.7191
22) 70.2732
23) 10.0678
24) 46.54765