Prepare for the GED Math Test in 7 Days

2019

A Quick Study Guide with Two Full-Length GED Math Practice Tests

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?

Send email to: Info@EffortlessMath.com

Prepare for the GED Math Test in 7 Days

A Quick Study Guide with Two Full-Length GED Math Practice 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: 978-1-970036-59-6

ISBN–10: 1-970036-59-1

Published by: Effortless Math Education

www.EffortlessMath.com

Description

Prepare for the GED Math Test in 7 Days, which reflects the 2019 and 2020 test guidelines and topics, incorporates the best method and the right strategies to help you hone your math skills, overcome your exam anxiety, and boost your confidence -- and do your best to defeat GED Math test quickly. This quick study guide contains only the most important and critical math concepts a student will need in order to succeed on the GED Math test. Math concepts in this book break down the topics, so the material can be quickly grasped. Examples are worked step–by–step to help you learn exactly what to do.

This GED Math new edition has been updated to duplicate questions appearing on the most recent GED Math tests. It contains easy–to–read essential summaries that highlight the key areas of the GED Math test. You only need to spend about 3 – 5 hours daily in your 7–day period in order to achieve your goal. After reviewing this book, you will have solid foundation and adequate practice that is necessary to fully prepare for the GED Math.

Prepare for the GED Math Test in 7 Days is for all GED Math test takers. It 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 GED Math tests are provided on Days 29 and 30 to refine your Math skills.

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

- Content 100% aligned with the 2019-2020 GED test
- Written by GED Math tutors and test experts
- Complete coverage of all GED Math concepts and topics which you will be tested
- Step-by-step guide for all GED Math topics
- Dynamic design and easy-to-follow activities
- Over 1,500 additional GED math practice questions in both multiple-choice and grid-in formats with answers grouped by topic, so you can focus on your weak areas
- 2 full-length practice tests (featuring new question types) with detailed answers

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

Prepare for the GED Math Test 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).

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.

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

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

Contents

Day 1: Fundamental and Building Blocks 10
Simplifying Fractions 11
Adding and Subtracting Fractions 11
Multiplying and Dividing Fractions 12
Adding Mixed Numbers 13
Subtracting Mixed Numbers 13
Multiplying Mixed Numbers 14
Dividing Mixed Numbers 15
Rounding Decimals 15
Adding and Subtracting Decimals 16
Multiplying and Dividing Decimals 17
Day 1 Practices 18
Answers 20
Day 2: Integers, Ratios, and Proportions 21
Adding and Subtracting Integers 22
Multiplying and Dividing Integers 22
Ordering Integers and Numbers 23
Order of Operations 24
Integers and Absolute Value 24
Simplifying Ratios 25
Proportional Ratios 25
Create a Proportion 26
Similarity and Ratios 27
Day 2 Practices 28
Answers 30
Day 3: Percentage, Exponents, Variables and Roots 31
Percentage Calculations 32
Percent Problems 32
Percent of Increase and Decrease 33
Discount, Tax and Tip 33
Simple Interest 34

Multiplication Property of Exponents 34
Division Property of Exponents 35
Powers of Products and Quotients 35
Zero and Negative Exponents 36
Negative Exponents and Negative Bases 36
Scientific Notation 37
Square Roots 38
Day 3 Practices 39
Answers 41
Day 4: Expressions, Variables, Equations and Inequalities 42
Simplifying Variable Expressions 43
Simplifying Polynomial Expressions 43
The Distributive Property 44
Evaluating One Variable 44
Evaluating Two Variables 45
Combining like Terms 45
One–Step Equations 46
Multi–Step Equations 46
Graphing Single–Variable Inequalities 47
One–Step Inequalities 47
Multi–Step Inequalities 48
Day 4 Practices 49
Answers 51
Day 5: Linear Equations and Inequalities 52
Finding Slope 53
Graphing Lines Using Slope–Intercept Form 53
Graphing Lines Using Standard Form 54
Writing Linear Equations 54
Graphing Linear Inequalities 55
Finding Midpoint 56
Finding Distance of Two Points 56
Day 5 Practices 57

Answers 59
Day 6: Monomials and Polynomials 61
Writing Polynomials in Standard Form 62
Simplifying Polynomials 62
Adding and Subtracting Polynomials 63
Multiplying Monomials 63
Multiplying and Dividing Monomials 64
Multiplying a Polynomial and a Monomial 64
Multiplying Binomials 65
Factoring Trinomials 65
Operations with Polynomials 66
Day 6 Practices 67
Answers 69
Day 7: Geometry and Statistics 70
The Pythagorean Theorem 71
Triangles 71
Polygons 72
Circles 72
Trapezoids 73
Cubes 73
Rectangular Prisms 74
Cylinder 74
Mean, Median, Mode, and Range of the Given Data 75
Pie Graph 75
Probability Problems 76
Day 7 Practices 77
Answers 80
GED Test Review 81
Time to Test 82
GED Mathematical Reasoning Practice Test 1 83
GED Mathematical Reasoning Practice Test 2 96
GED Mathematical Reasoning Practice Tests Answer Keys 110

How to score your test.....111

GED Mathematical Reasoning Practice Tests Answers and Explanations 113

Day 1: Fundamental 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
- ✓ Rounding Decimals
- ✓ Adding and Subtracting Decimals
- ✓ Multiplying and Dividing Decimals

"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

Step-by-step guide:

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

Examples:

1) Simplify $\frac{12}{20}$. To simplify $\frac{12}{20}$, find a number that both 12 and 20 are divisible by. Both are divisible by 4. Then: $\frac{12}{20} = \frac{12\div4}{20\div4} = \frac{3}{5}$

2) Simplify $\frac{64}{80}$. To simplify $\frac{64}{80}$, find a number that both 64 and 80 are divisible by. Both are divisible by 8 and 16. Then: $\frac{64}{80} = \frac{64\div8}{80\div8} = \frac{8}{10}$, 8 and 10 are divisible by 2, then: $\frac{8}{10} = \frac{4}{5}$ or $\frac{64}{80} = \frac{64\div16}{80\div16} = \frac{4}{5}$

Adding and Subtracting Fractions

Step-by-step guide:

- ✓ 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:

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

Examples:

1) Calculate. $\frac{4}{5}-\frac{3}{5}=$

For "like" fractions, subtract the numerators and write the answer over the common denominator. Then: $\frac{4}{5}-\frac{3}{5}=\frac{1}{5}$

2) Subtract fractions. $\frac{2}{3}-\frac{1}{2}=$

For "unlike" fractions, find equivalent fractions with the same denominator before you can add or subtract fractions with different denominators. Use this formula: $\frac{a}{b}-\frac{c}{d}=\frac{ad-cb}{bd}$

$\frac{2}{3}-\frac{1}{2}=\frac{(2)(2)-(1)(3)}{3\times 2}=\frac{4-3}{6}=\frac{1}{6}$

Multiplying and Dividing Fractions

Step-by-step guide:

- ✓ 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!

Examples:

1) Multiplying fractions. $\frac{5}{6}\times\frac{3}{4}=$

Multiply the top numbers and multiply the bottom numbers.

$\frac{5}{6}\times\frac{3}{4}=\frac{5\times 3}{6\times 4}=\frac{15}{24}$, simplify: $\frac{15}{24}=\frac{15\div 3}{24\div 3}=\frac{5}{8}$

2) Dividing fractions. $\frac{1}{4}\div\frac{2}{3}=$

Keep first fraction, change division sign to multiplication, and flip the numerator and denominator of the second fraction. Then: $\frac{1}{4}\times\frac{3}{2}=\frac{1\times 3}{4\times 2}=\frac{3}{8}$

Adding Mixed Numbers

Step-by-step guide:

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

- ✓ Add whole numbers of the mixed numbers.
- ✓ Add the fractions of each mixed number.
- ✓ Find the Least Common Denominator (LCD) if necessary.
- ✓ Add whole numbers and fractions.
- ✓ Write your answer in lowest terms.

Examples:

1) Add mixed numbers. $1\frac{3}{4}+2\frac{3}{8}=$

Rewriting our equation with parts separated, $1+\frac{3}{4}+2+\frac{3}{8}$, Solving the whole number parts $1+2=3$, Solving the fraction parts $\frac{3}{4}+\frac{3}{8}$, and rewrite to solve with the equivalent fractions. $\frac{6}{8}+\frac{3}{8}=\frac{9}{8}=1\frac{1}{8}$, then Combining the whole and fraction parts $3+1+\frac{1}{8}=4\frac{1}{8}$

2) Add mixed numbers. $1\frac{2}{3}+4\frac{1}{6}=$

Rewriting our equation with parts separated, $1+\frac{2}{3}+4+\frac{1}{6}$, Solving the whole number parts $1+4=5$, Solving the fraction parts $\frac{2}{3}+\frac{1}{6}$, and rewrite to solve with the equivalent fractions. $\frac{2}{3}+\frac{1}{6}=\frac{5}{6}$, then Combining the whole and fraction parts $5+\frac{5}{6}=5\frac{5}{6}$

Subtracting Mixed Numbers

Step-by-step guide:

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

- ✓ Subtract the whole number of second mixed number from whole number of the first mixed number.
- ✓ Subtract the second fraction from the first one.
- ✓ Find the Least Common Denominator (LCD) if necessary.
- ✓ Add the result of whole numbers and fractions.
- ✓ Write your answer in lowest terms.

Examples:

1) Subtract. $5\frac{2}{3}-2\frac{1}{4}=$

Rewriting our equation with parts separated, $5+\frac{2}{3}-2-\frac{1}{4}$

Solving the whole number parts $5-2=3$, Solving the fraction parts, $\frac{2}{3}-\frac{1}{4}=\frac{8-3}{12}=\frac{5}{12}$

Combining the whole and fraction parts, $3+\frac{5}{12}=3\frac{5}{12}$

2) Subtract. $3\frac{4}{5}-1\frac{1}{2}=$

Rewriting our equation with parts separated, $3+\frac{4}{5}-1-\frac{1}{2}$

Solving the whole number parts $3-1=2$, Solving the fraction parts, $\frac{4}{5}-\frac{1}{2}=\frac{3}{10}$

Combining the whole and fraction parts, $2+\frac{3}{10}=2\frac{3}{10}$

Multiplying Mixed Numbers

Step-by-step guide:

- ✓ Convert the mixed numbers to improper fractions. (improper fraction is a fraction in which the top number is bigger than bottom number)
- ✓ Multiply fractions and simplify if necessary. $a\frac{c}{b}=a+\frac{c}{b}=\frac{ab+c}{b}$

Examples:

1) Multiply mixed numbers. $3\frac{2}{3}\times 2\frac{1}{2}=$

Converting mixed numbers to fractions, $3\frac{2}{3}=\frac{11}{3}$ and $2\frac{1}{2}=\frac{5}{2}$.

$\frac{11}{3}\times\frac{5}{2}$, Applying the fractions formula for multiplication, $\frac{11\times5}{3\times2}=\frac{55}{6}=9\frac{1}{6}$

2) Multiply mixed numbers. $4\frac{3}{5}\times 2\frac{1}{3}=$

Converting mixed numbers to fractions, $\frac{23}{5}\times\frac{7}{3}$, Applying the fractions formula for multiplication, $\frac{23\times7}{5\times3}=\frac{161}{15}=10\frac{11}{15}$

Dividing Mixed Numbers

Step-by-step guide:

- ✓ Convert the mixed numbers to improper fractions.
- ✓ Divide fractions and simplify if necessary.

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

Examples:

1) Find the quotient. $2\frac{1}{2} \div 1\frac{1}{5} =$

Converting mixed numbers to fractions, $\frac{5}{2} \div \frac{6}{5}$, Applying the fractions formula for multiplication, $\frac{5\times5}{2\times6} = \frac{25}{12} = 2\frac{1}{12}$

2) Find the quotient.$4\frac{3}{4} \div 3\frac{4}{5} =$

Converting mixed numbers to fractions, $\frac{19}{4} \div \frac{19}{5}$, Applying the fractions formula for multiplication, $\frac{19\times5}{4\times19} = \frac{95}{76} = 1\frac{1}{4}$

Rounding Decimals

Step-by-step guide:

- ✓ We can round decimals to a certain accuracy or number of decimal places. This is used to make calculation easier to do and results easier to understand, when exact values are not too important.
- ✓ First, you'll need to remember your place values: For example:

$$\mathbf{12.4567}$$

1: tens	2: ones	4: tenths
5: hundredths	6: thousandths	7: tens thousandths

- ✓ To round a decimal, find the place value you'll round to.
- ✓ Find the digit to the right of the place value you're rounding to. If it is 5 or bigger, add 1 to the place value you're rounding to and remove all digits on its right side. If the digit to the right of the place value is less than 5, keep the place value and remove all digits on the right.

Examples:

1) Round 2.1837 to the thousandth place value.

   First look at the next place value to the right, (tens thousandths). It's 7 and it is greater than 5. Thus add 1 to the digit in the thousandth place.

   Thousandth place is 3. $\rightarrow 3 + 1 = 4$, then, the answer is 2.184

2) 2.1837 rounded to the nearest hundredth.

   First look at the next place value to the right of thousandths. It's 3 and it is less than 5, thus remove all the digits to the right. Then, the answer is 2.18.

Adding and Subtracting Decimals

Step-by-step guide:

- ✓ Line up the numbers.
- ✓ Add zeros to have same number of digits for both numbers if necessary.
- ✓ Add or subtract using column addition or subtraction.

Examples:

1) Add. $2.5 + 1.24 =$

   First line up the numbers: $\begin{array}{r} 2.5 \\ +\ 1.24 \\ \hline \end{array}$ → Add zeros to have same number of digits for both numbers. $\begin{array}{r} 2.50 \\ +\ 1.24 \\ \hline \end{array}$, Start with the hundredths place. $0 + 4 = 4$, $\begin{array}{r} 2.50 \\ +\ 1.24 \\ \hline 4 \end{array}$, Continue with tenths place. $5 + 2 = 7$, $\begin{array}{r} 2.50 \\ +\ 1.24 \\ \hline .74 \end{array}$. Add the ones place. $2 + 1 = 3$, $\begin{array}{r} 2.50 \\ +\ 1.24 \\ \hline 3.74 \end{array}$

2) Subtract decimals. $4.67 - 2.15 = \begin{array}{r} 4.67 \\ -\ 2.15 \\ \hline \end{array}$

   Start with the hundredths place. $7 - 5 = 2$, $\begin{array}{r} 4.67 \\ -\ 2.15 \\ \hline 2 \end{array}$, continue with tenths place. $6 - 1 = 5$ $\begin{array}{r} 4.67 \\ -\ 2.15 \\ \hline .52 \end{array}$, subtract the ones place. $4 - 2 = 2$, $\begin{array}{r} 4.67 \\ -\ 2.15 \\ \hline 2.52 \end{array}$.

Multiplying and Dividing Decimals

Step-by-step guide:

For Multiplication:

- ✓ Ignore the decimal point and set up and multiply the numbers as you do with whole numbers.
  Count the total number of decimal places in both of the factors.
  Place the decimal point in the product.
  For Division:
- ✓ If the divisor is not a whole number, move decimal point to right to make it a whole number. Do the same for dividend.
- ✓ Divide similar to whole numbers.

Examples:

1) Find the product. $0.50 \times 0.20 =$

Set up and multiply the numbers as you do with whole numbers. Line up the numbers: $\frac{50}{\times\ 20}$, Start with the ones place → $50 \times 0 = 0$, $\frac{50}{\times 20}{0}$, Continue with other digits → $50 \times 2 = 100$, $\frac{50}{\times 20}{1{,}000}$, Count the total number of decimal places in both of the factors. (4). Then Place the decimal point in the product. Then: $\frac{0.50}{\times\ 0.20}{0.1000} \rightarrow 0.50 \times 0.20 = 0.1$

2) Find the quotient. $1.20 \div 0.2 =$

The divisor is not a whole number. Multiply it by 10 to get 2. Do the same for the dividend to get 12. Now, divide: $12 \div 2 = 6$. The answer is 6.

Day 1 Practices

Simplify each fraction.

1) $\frac{27}{54} =$

2) $\frac{48}{60} =$

3) $\frac{42}{56} =$

4) $\frac{30}{120} =$

5) $\frac{36}{48} =$

6) $\frac{18}{27} =$

Find the sum or difference.

7) $\frac{12}{19} + \frac{7}{19} =$

8) $\frac{2}{4} + \frac{3}{9} =$

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

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

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

12) $\frac{8}{10} - \frac{4}{6} =$

Find the answers.

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

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

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

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

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

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

Calculate.

19) $5\frac{1}{2} + 2\frac{1}{3} =$

20) $8\frac{1}{2} - 3\frac{1}{2} =$

21) $5\frac{3}{8} + 3\frac{1}{8} =$

22) $6\frac{1}{2} - 3\frac{1}{4} =$

23) $1\frac{3}{7} - 1\frac{3}{14} =$

24) $7\frac{5}{12} + 2\frac{3}{4} =$

Find the answers.

25) $4\frac{1}{3} \times 2\frac{1}{5} =$

26) $3\frac{1}{2} \times 3\frac{1}{4} =$

27) $5\frac{2}{5} \div 2\frac{1}{3} =$

28) $2\frac{1}{2} \times 1\frac{2}{9} =$

29) $3\frac{4}{7} \div 2\frac{3}{5} =$

30) $7\frac{2}{3} \div 2\frac{2}{3} =$

Round each decimal to the nearest whole number.

31) 23.48

32) 8.7

33) 14.47

34) 7.5

35) 3.92

36) 56.8

Find the sum or difference.

37) $34.13 - 14.45 =$

38) $37.25 + 22.47 =$

39) $75.50 + 20.78 =$

40) $58.67 - 46.39 =$

41) $73.47 + 14.25 =$

42) $69.99 - 54.61 =$

Find the product and quotient.

43) $0.6 \times 0.3 =$

44) $4.6 \div 0.2 =$

45) $1.25 \times 0.5 =$

46) $0.72 \div 0.2 =$

47) $1.92 \times 0.8 =$

48) $0.52 \div 0.4 =$