Visit www.EffortlessMath.com for Online Math Practice

Successfully Used by Thousands of FTCE Test Takers

FTCE Math Study Guide 2020-2021

A Comprehensive Review and Step-By-Step Guide to Preparing for the FTCE Math

Recommended by Test Prep Experts

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

FTCE Math Study Guide 2020 - 2021

A Comprehensive Review and Step-By-Step Guide to Preparing for the FTCE General Knowledge Math

By

Reza Nazari & Ava Ross

Copyright © 2020

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: 978-1-64612-484-8

Published by: Effortless Math Education

www.EffortlessMath.com

Visit www.EffortlessMath.com

for Online Math Practice

Description

FTCE Math Study Guide, which reflects the 2020 - 2021 test guidelines, is designed by top FTCE Math instructors and test prep experts to help test takers succeed on the FTCE General Knowledge Math Test. The updated version of this comprehensive FTCE Math preparation book includes Math lessons, extensive exercises, sample FTCE Math questions, and quizzes with answers and detailed solutions to help you hone your math skills, overcome your exam anxiety, boost your confidence—and do your best to ace the FTCE exam on test day. Upon completion of this perfect FTCE General Knowledge Math prep book, you will have a solid foundation and sufficient practice to ace the FTCE Math test.

Not only does this all-inclusive prep book offer everything you will ever need to prepare for the FTCE Math test, but it also contains two complete and realistic FTCE Math tests that reflect the format and question types on the FTCE to help you check your exam-readiness and identify where you need more practice.

FTCE Math Study Guide contains many exciting and unique features to help you prepare for the FTCE Math test, including:

- ✓ Content 100% aligned with the 2020 FTCE® test
- ✓ Written by FTCE Math instructors and test experts
- ✓ Complete coverage of all FTCE Math concepts and topics which you will be tested
- ✓ Step-by-step guide for all FTCE Math topics
- ✓ Abundant Math skill building exercises to help test-takers approach different question types that might be unfamiliar to them
- ✓ Exercises on different FTCE Math topics such as integers, percent, equations, polynomials, exponents and radicals
- ✓ 2 full-length practice tests (featuring new question types) with detailed answers

Name: ……	**Date:** ……

Topic	**Comparing Decimals - Answers**	
Notes	Decimals: is a fraction written in a special form. For example, instead of writing $\frac{1}{2}$ you can write $\mathbf{0.5}$. For comparing decimals: ✓ Compare each digit of two decimals in the same place value. ✓ Start from left. Compare hundreds, tens, ones, tenth, hundredth, etc. ✓ To compare numbers, use these symbols: - Equal to $=$, Less than $<$, Greater than $>$ Greater than or equal $\geq$, Less than or equal $\leq$	
Examples	***Compare*** $\mathbf{0.40}$ ***and*** $\mathbf{0.04}$. 0.40 *is greater than* 0.04, because the tenth place of 0.40 is 4, but the tenth place of 0.04 is zero. Then: $0.40 > 0.04$ ***Compare*** $\mathbf{0.0912}$ ***and*** $\mathbf{0.912}$. 0.912 *is greater than* 0.0912, because the tenth place of 0.912 is 9, but the tenth place of 0.0912 is zero. Then: $0.0912 < 0.912$	
Your Turn!	1) $0.91 < 0.95$	2) $1.78 < 1.80$
	3) $19.1 > 19.09$	4) $2.45 > 2.089$
	5) $1.258 < 12.58$	6) $0.89 = 0.890$
	7) $3.387 > 2.998$	8) $0.567 < 0.756$

Name: ……..	**Date:** ……

Topic	**Rounding Decimals**
Notes	✓ We can round decimals to a certain accuracy or number of decimal places. ✓ Let's review place values: For example: $\mathbf{35.4817}$ 3: tens 5: ones 4: tenths 8: hundredths 1: 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.
Example	***Round*** $\mathbf{12.8365}$ ***to the hundredth place value.*** First look at the next place value to the right, (thousandths). It's 6 and it is greater than 5. Thus add 1 to the digit in the hundredth place. It is 3. → $3 + 1 = 4$, then, the answer is 12.84

Your Turn!	***Round each number to the underlined place value***.	
	1) $32.5\underline{4}8 =$	2) $2.3\underline{2}6 =$
	3) $55.\underline{4}23 =$	4) $2\underline{5}.62 =$
	5) $11.\underline{2}65 =$	6) $33.5\underline{0}5 =$
	7) $3.5\underline{8}9 =$	8) $8.0\underline{1}9 =$

Name: ……	**Date:** ……

Topic	**Rounding Decimals - Answers**
Notes	✓ We can round decimals to a certain accuracy or number of decimal places. ✓ Let's review place values: For example: 35.4817 3: tens 5: ones 4: tenths 8: hundredths 1: 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.
Example	***Round 12.8365 to the hundredth place value.*** First look at the next place value to the right, (thousandths). It's 6 and it is greater than 5. Thus add 1 to the digit in the hundredth place. It is 3. → $3 + 1 = 4$, then, the answer is 12.84

Your Turn!	***Round each number to the underlined place value.***	
	1) $32.5\underline{4}8 = 32.55$	2) $2.3\underline{2}6 = 2.33$
	3) $55.\underline{4}23 = 55.4$	4) $2\underline{5}.62 = 26$
	5) $11.\underline{2}65 = 11.3$	6) $33.5\underline{0}5 = 33.51$
	7) $3.5\underline{8}9 = 3.59$	8) $8.0\underline{1}9 = 8.02$

Name: ……..	**Date:** ……..

Topic	**Adding and Subtracting Decimals**	
Notes	✓ 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	***Add***. $2.6 + 5.33 =$ First line up the numbers: $\frac{2.6}{+\ 5.33}$ →Add zeros to have same number of digits for both numbers. $\frac{2.60}{+\ 5.33}$ → Start with the hundredths place. $0 + 3 = 2$, $\frac{.60}{+\ 5.33\ \ 3}$ → Continue with tenths place. $6 + 3 = 9$, $\frac{.60}{+\ 5.33\ .93}$ → Add the ones place. $2 + 5 = 7$, $\frac{2.60}{+\ 5.33\ 7.93}$ ***Subtract***. $4.79 - 3.13 =$ $\frac{4.79}{-\ 3.13}$ Start with the hundredths place. $9 - 3 = 6$, $\frac{.79}{-\ 3.13}$, continue with tenths place. $7 - 1 = 6$, $\frac{.79}{-\ 3.13\ .66}$, subtract the ones place. $4 - 3 = 1$, $\frac{.79}{-\ 3.13\ 1.66}$	
Your Turn!	1) $48.13 + 20.15 =$	2) $78.14 - 65.19 =$
	3) $38.19 + 24.18 =$	4) $57.26 - 43.54 =$
	5) $27.89 + 46.13 =$	6) $49.65 - 32.78 =$

Name: ……	**Date:** ……

Topic	**Adding and Subtracting Decimals - Answers**	
Notes	✓ 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	***Add***. $2.6 + 5.33 =$ First line up the numbers: $\begin{array}{r} 2.6 \\ +\ 5.33 \\ \hline \end{array}$ →Add zeros to have same number of digits for both numbers. $\begin{array}{r} .60 \\ +\ 5.33 \\ \hline \end{array}$ → Start with the hundredths place. $0 + 3 = 2$, $\begin{array}{r} 2.60 \\ +\ 5.33 \\ \hline \end{array}$ → Continue with tenths place. $6 + 3 = 9$, $\begin{array}{r} 2.60 \\ +\ 5.33 \\ \hline .93 \end{array}$ → Add the ones place. $2 + 5 = 7$, $\begin{array}{r} 2.60 \\ +\ 5.33 \\ \hline 7.93 \end{array}$ ***Subtract***. $4.79 - 3.13 =$ $\begin{array}{r} .79 \\ -\ 3.13 \\ \hline \end{array}$ Start with the hundredths place. $9 - 3 = 6$, $\begin{array}{r} .79 \\ -\ 3.13 \\ \hline 6 \end{array}$, continue with tenths place. $7 - 1 = 6$, $\begin{array}{r} .79 \\ -\ 3.13 \\ \hline .66 \end{array}$, subtract the ones place. $4 - 3 = 1$, $\begin{array}{r} .79 \\ -\ 3.13 \\ \hline .66 \end{array}$	
Your Turn!	1) $48.13 + 20.15 = 68.28$	2) $78.14 - 65.19 = 12.95$
	3) $38.19 + 24.18 = 62.37$	4) $57.26 - 43.54 = 13.72$
	5) $27.89 + 46.13 = 74.02$	6) $49.65 - 32.78 = 16.87$

Name: ……	**Date:** ……

Topic	**Multiplying and Dividing Decimals**	
Notes	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 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	***Find the product***. $1.2 \times 2.3 =$ Set up and multiply the numbers as you do with whole numbers. Line up the numbers: $\overset{12}{\times\ 23}$ → Multiply: $\frac{\overset{12}{\times 23}}{276}$ → Count the total number of decimal places in both of the factors. There are two decimal digits. Then: $1.2 \times 2.3 = 2.76$ ***Find the quotient.*** $5.6 \div 0.8 =$ The divisor is not a whole number. Multiply it by 10 to get 8. → $0.8 \times 10 = 8$ Do the same for the dividend to get 56 → $5.6 \times 10 = 56$ Now, divide: $56 \div 8 = 7$. The answer is 7.	
Your Turn!	1) $1.13 \times 0.7 =$	2) $48.8 \div 8 =$
	3) $0.9 \times 0.68 =$	4) $66.8 \div 0.2 =$
	5) $0.18 \times 0.5 =$	6) $37.2 \div 100 =$