STAAR Grade 8 Math Study Guide

Step-By-Step Guide to Preparing for the STAAR Grade 8 Math Test

2022 - 2023

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Reza Nazari

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By

Reza Nazari

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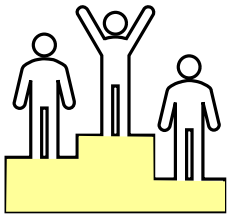
Welcome to
STAAR Grade 8 Math Prep 2022



Thank you for choosing Effortless Math for your STAAR Grade 8 Math test preparation and congratulations on making the decision to prepare for the STAAR Grade 8 test! It's a remarkable move you are taking, one that shouldn't be diminished in any capacity. That's why you need to use every tool possible to ensure you succeed on the test with the highest possible score, and this extensive study guide is one such tool.

This study guide will help you prepare for (and even ACE) the STAAR Grade 8 test's math section. As test day draws nearer, effective preparation becomes increasingly more important. Thankfully, you have this comprehensive study guide to help you get ready for the test. With this guide, you can feel confident that you will be more than ready for the STAAR Grade 8 Math test when the time comes.

First and foremost, it is important to note that this book is a study guide and not a textbook. It is best read from cover to cover. Every lesson of this "self-guided math book" was carefully developed to ensure that you are making the most effective use of your time while preparing for the test. This up-to-date guide reflects the 2022 test guidelines and will put you on the right track to hone your math skills, overcome exam anxiety, and boost your confidence, so that you can have your best to succeed on the STAAR Grade 8 Math test.



Topic	**Multiplying and Dividing Integers**	
Notes	Use following rules for multiplying and dividing integers: ✓ (negative) × (negative) = positive ✓ (negative) ÷ (negative) = positive ✓ (negative) × (positive) = negative ✓ (negative) ÷ (positive) = negative ✓ (positive) × (positive) = positive ✓ (positive) ÷ (negative) = negative	
Examples	***Solve***. $2 \times (14 - 17) =$ First subtract the numbers in brackets, $14 - 17 = -3 \rightarrow (2) \times (-3) =$ Now use this rule: (positive) × (negative) = negative $(2) \times (-3) = -6$ ***Solve***. $(-7) + (-36 \div 4) =$ First divide -36 by 4 , the numbers in brackets, using this rule: (negative) ÷ (positive) = negative Then: $-36 \div 4 = -9$. Now, add -7 and -9: $(-7) + (-9) = -7 - 9 = -16$	
Your Turn!	1) $(-4) \times 3 =$	2) $(-48) \div (-8) =$
	3) $(-11) \times (-3) =$	4) $81 \div (-9) =$
	5) $(15 - 12) \times (-7) =$	6) $(-12) \div (3) =$
Find more at bit.ly/3pjQW98	7) $3 \times (-7) =$	8) $(9) \div (-3) =$

Topic	Multiplying and Dividing Integers - Answers	
Notes	Use following rules for multiplying and dividing integers: ✓ (negative) × (negative) = positive ✓ (negative) ÷ (negative) = positive ✓ (negative) × (positive) = negative ✓ (negative) ÷ (positive) = negative ✓ (positive) × (positive) = positive ✓ (positive) ÷ (negative) = negative	
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Your Turn! **Find more at** bit.ly/3pjQW98	1) $(-4) \times 3 =$ -12	2) $(-48) \div (-8) = 6$
	3) $(-11) \times (-3) = 33$	4) $81 \div (-9) = -9$
	5) $(15 - 12) \times (-7) =$ -21	6) $(-12) \div (3) = -4$
	7) $3 \times (-7) = -21$	8) $(9) \div (-3) = -3$

Topic	Order of Operation	
Notes	When there is more than one math operation, use PEMDAS: (to memorize this rule, remember the phrase "Please Excuse My Dear Aunt Sally") ✓ Parentheses ✓ Exponents ✓ Multiplication and Division (from left to right) ✓ Addition and Subtraction (from left to right)	
Examples	***Calculate***. $(18-26)\div(2^4\div 4)=$ First simplify inside parentheses: $(-8)\div(16\div 4)=(-8)\div(4)$ Then: $(-8)\div(4)=-2$ ***Solve***. $(-5\times 7)-(18-3^2)=$ First calculate within parentheses: $(-5\times 7)-(18-3^2)=(-35)-(18-9)$ Then: $(-35)-(18-9)=-35-9=-44$	
Your Turn! **Find more at** bit.ly/37LBw7X	1) $(12\times 3)\div(6+6)=$	2) $(36\div 4)+(11-4)=$
	3) $(-9)+(5\times 6)+14=$	4) $(-10\times 5)\div(2^2+1)=$
	5) $[-16(32\div 2^3)]\div 8=$	6) $(-7)+(72\div 3^2)+12=$
	7) $[10(64\div 2^4)]-3^2=$	8) $3^3+(-6\times 2^3)+4=$

Topic	Order of Operation – Answers	
Notes	When there is more than one math operation, use PEMDAS: (to memorize this rule, remember the phrase "Please Excuse My Dear Aunt Sally") ✓ Parentheses ✓ Exponents ✓ Multiplication and Division (from left to right) ✓ Addition and Subtraction (from left to right)	
Examples	***Calculate.*** $(18-26)\div(2^4\div 4)=$ First simplify inside parentheses: $(-8)\div(16\div 4)=(-8)\div(4)$ Then: $(-8)\div(4)=-2$ ***Solve***. $(-5\times 7)-(18-3^2)=$ First calculate within parentheses: $(-5\times 7)-(18-3^2)=(-35)-(18-9)$ Then: $(-35)-(18-9)=-35-9=-44$	
Your Turn! **Find more at** bit.ly/37LBw7X	1) $(12\times 3)\div(6+6)=3$	2) $(36\div 4)+(11-4)=16$
	3) $(-9)+(5\times 6)+14=35$	4) $(-10\times 5)\div(2^2+1)=-10$
	5) $[-16(32\div 2^3)]\div 8=-8$	6) $(-7)+(72\div 3^2)+12=13$
	7) $[10(64\div 2^4)]-3^2=$ 31	8) $3^3+(-6\times 2^3)+4=-17$

Topic	Integers and Absolute Value	
Notes	✓ The absolute value of a number is its distance from zero, in either direction, on the number line. For example, the distance of 9 and -9 from zero on number line is 9. ✓ Absolute value is symbolized by vertical bars, as in $\lvert x\rvert$.	
Example	***Calculate***. $\lvert 8-5\rvert \times \lvert 12-16\rvert =$ First calculate $\lvert 8-5\rvert$, $\rightarrow \lvert 8-5\rvert = \lvert 3\rvert$, the absolute value of 3 is 3, $\lvert 3\rvert = 3$ $8 \times \lvert 12-16\rvert =$ Now calculate $\lvert 12-16\rvert$, $\rightarrow \lvert 12-16\rvert = \lvert -4\rvert$, the absolute value of -4 is 4, $\lvert -4\rvert = 4$. Then: $3 \times 4 = 12$	
Your Turn! **Find more at** bit.ly/3aD521u	1) $12 - \lvert 6-15\rvert =$	2) $12 - \lvert 14-18\rvert - \lvert 6\rvert =$
	3) $\lvert 21\rvert - \frac{\lvert -25\rvert}{5} =$	4) $\lvert 30\rvert + \frac{\lvert -49\rvert}{7} =$
	5) $\frac{\lvert 7\times -8\rvert}{4} \times \frac{\lvert -12\rvert}{2} =$	6) $\frac{\lvert 10\times -6\rvert}{5} \times \lvert -9\rvert =$
	7) $\frac{\lvert -45\rvert}{9} \times \frac{\lvert -42\rvert}{7} =$	8) $\lvert -25+4\rvert \times \frac{\lvert -8\times 3\rvert}{6} =$

Topic	Integers and Absolute Value – Answers	
Notes	✓ The absolute value of a number is its distance from zero, in either direction, on the number line. For example, the distance of 9 and −9 from zero on number line is 9. ✓ Absolute value is symbolized by vertical bars, as in $\lvert x\rvert$.	
Example	***Calculate.*** $\lvert 8-5\rvert \times \lvert 12-16\rvert =$ First calculate $\lvert 8-5\rvert$, →$\lvert 8-5\rvert = \lvert 3\rvert$, the absolute value of 3 is 3, $\lvert 3\rvert = 3$ $8 \times \lvert 12-16\rvert =$ Now calculate $\lvert 12-16\rvert$, → $\lvert 12-16\rvert = \lvert -4\rvert$, the absolute value of -4 is 4, $\lvert -4\rvert = 4$. Then: $3 \times 4 = 12$	
Your Turn! **Find more at** bit.ly/3aD521u	1) $12-\lvert 6-15\rvert = 3$	2) $12-\lvert 14-18\rvert-\lvert 6\rvert = 2$
	3) $\lvert 21\rvert - \frac{\lvert -25\rvert}{5} = 16$	4) $\lvert 30\rvert + \frac{\lvert -49\rvert}{7} = 37$
	5) $\frac{\lvert 7\times -8\rvert}{4} \times \frac{\lvert -12\rvert}{2} = 84$	6) $\frac{\lvert 10\times -6\rvert}{5} \times \lvert -9\rvert = 108$
	7) $\frac{\lvert -45\rvert}{9} \times \frac{\lvert -42\rvert}{7} = 30$	8) $\lvert -25+4\rvert \times \frac{\lvert -8\times 3\rvert}{6} = 84$