Name:_____ Period:_____ Date: _____

July 2023 Math Vocabulary & How to...

	Word	Definition	Illustration	
1	Operations	a mathematical action. Addition, subtraction, multiplication, division, and calculating the root are all examples of a mathematical operation	$+ - \times \div$	
2	Order of Operations	The order of which mathematical operations must be carried out. (<u>Multiply & Divide</u> and <u>Add & Subtract</u> must be done in the order in which they appear in the problem.)	$() \qquad \qquad$	
3	Inverse Operations	pairs of mathematical manipulations in which one operation undoes the action of the other—for example, addition and subtraction, multiplication, and division	$\begin{array}{c cc} + & \times & x^2 \\ \hline - & \div & \sqrt{x} \end{array}$	
4	Addend;	Numbers being added.	4 + 7 = 11	
5	\$um	the result obtained by adding	addend addend Sum or Total	
6	Difference	the result obtained by subtracting	$44 - 27 = 17$ \downarrow	
7	Factor;	Numbers being multiplied.	$5 \times 8 = 40$ $\downarrow \qquad \downarrow \qquad \downarrow$ factor factor product	
8	Product	the result obtained by multiplying		

9	Quotient	the result obtained by dividing	divisor	
			24 -	÷ 12 = 2
			di v idend	Quotient
10	Tenths	the first-place value to the right of the decimal point	Whole	e and Parts
11	Hundredths	the second-place value to the right of the decimal point	housands Hundreds Tens	Tens Ones Cimal Poir Tenths undredths ousandth
12	Thousandths	the third-place value to the right of the decimal point		
13	Descend	decrease or go down		
14	Ascend	increase or go up		ζ
15	Numerator	Appears above the fraction bar and indicates the number of parts counted	fraction	3 ← numerator 5 ← denominator
16	Denominator	Appears beneath the fraction bar and indicates how many equal parts are in the whole.	bar 5	
17	Fraction Bar	separates the numerator and the denominator		

18	Integer Rational Numbers	The collection of integers is composed of the counting numbers, their negatives, and zero;4, -3, -2, -1, 0, 1, 2, 3, 4 A number that can be expressed as the fraction $\frac{a}{b}$ or - $\frac{a}{b}$ where <i>a</i> and <i>b</i> are whole numbers and $b \neq 0$.	Rational Numbers 0.9 1 ¹ / ₂ 5.212 - ¹⁰ / ₃ Integers 3, -2, -1, 0, 1, 2, 3 Whole Numbers 0, 1, 2, 3, 4, 5 Natural Numbers 1, 2, 3, 4, 5, 6
20	Conștant	A fixed value.	variable constant coefficient
21	Coefficient	a number multiplied by a variable.	$5x + 7 = \sqrt{2}$
22	Variable	A letter or symbol that represents an unknown quantity.	expression expression
23	Term	single numbers, variables, or the product of a number and variables	equation Terms: $5x$, 7, $\sqrt{2}$
24	Zero Pair;	Two numbers whose sum is zero.	0 + -1 + 1 = 0
25	Opposite Numbers	the same distance from zero, but in opposite directions (opposite numbers are zero pairs)	
26	Abșolute Value	The numbers distance from zero on a number line. Is NEVER negative!	3 = 3 $-3 - 2 - 1 0 1 2 3$ $ =2 = 2$

How to...

	How to	Steps in Words	Example		Example Solved	
1	Change a fraction into a decimal .	Divide the numerator by the denominator.	$\frac{3}{5}$		3 ÷ 5 = 0.6	
2	Change a decimal to a fraction.	 1st - Rewrite the fraction with a 1 in the denominator. 2nd - Multiply the numerator and denominator by 10ⁿ where "n" is the number of digits behind the decimal point. 3rd - Simplify if needed. 	<u>Ех 1.</u> 0.13	<u>Ex 2.</u> 0.039	$\frac{E \times 1.}{O.15}$ $\frac{1^{st}}{\frac{0.13}{1} \times \frac{100}{100}} = \frac{13}{100}$	$\frac{\mathbf{Ex 2.}}{0.039}$ $\frac{\mathbf{1^{st}}}{\frac{0.039}{1} \times \frac{\mathbf{2nd}}{1000}}{\frac{1000}{1000}} = \frac{39}{1000}$
3	Change a mixed number into an improper fraction .	 1st - Multiply the denominator by the whole number. 2nd - Add this product to the numerator. 3rd - The denominator stays the same. 		$4\frac{1}{3}$	1 st 12 4 ¹ / ₃	2nd and 3rd 12 $4\frac{1}{3} \equiv \frac{13}{3}$
4	Change a percent to a decimal.	Divide the percent by 100.	37%		37 ÷ 1	00 = 0.37
5	Change a decimal to a percent .	Multiply the decimal by 100.	0.03		0.03 × 100 = 3%	
6	Simplify Fractions	 1st - Find the Greatest Common Factor (GCF). List all the factors of the numerator List all the factors of the denominator. Choose the greatest factor they have in common. 2nd - Divide the numerator and denominator by the GCF. 		$\frac{12}{18}$	12 18 1 12 1 2 6 2 9 3 4 3 6	2nd 8 $\frac{12}{18} \div \frac{6}{6} = \frac{2}{3}$

7	Add and subtract fractions with like denominators	 1st – Add or subtract the numerators. 2nd - Keep the denominator the same. 3rd – Simplify if needed. 	$\frac{\frac{\mathbf{Ex 1.}}{5}}{\frac{5}{8} + \frac{2}{8}} \qquad \frac{\frac{\mathbf{Ex 2.}}{8}}{\frac{8}{10} - \frac{5}{10}}$	$\frac{\mathbf{Ex 1.}}{\frac{5}{8} + \frac{2}{8}} = \frac{7}{8} \qquad \qquad \frac{8}{10} - \frac{5}{10} = \frac{3}{10}$
8	Add fractions with unlike denominators	 1st - Find the Least Common Multiple of the denominators (LCM). List the multiples of both denominators. Select the smallest multiple they have in common. (This is your new denominator.) 2nd - Make your equivalent fractions. 3rd - Add the numerators. 4th - Keep the denominator the same. 5th - Simplify if needed. 	$\frac{3}{4} + \frac{3}{5}$	$\frac{1}{4}, 8, 12, 16, 20, 24$ 5, 10, 15, 20, 25 $\frac{2nd}{3} \times \frac{5}{5} = \frac{15}{20} \qquad \frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$ $\frac{3rd}{4}, \frac{4th}{4}, \frac{4}{5} \frac{5th}{20} = \frac{17}{20}$
9	Subtract fractions with unlike denominators .	 1st - Find the Least Common Multiple of the denominators (LCM). List the multiples of both denominators. Select the smallest multiple they have in common. (This is your new denominator.) 2nd - Make your equivalent fractions. 3rd - Subtract the numerators. 4th - Keep the denominator the same. 5th - Simplify if needed. 	$\frac{4}{5} - \frac{1}{6}$	$\frac{1}{20} = \frac{1}{20} = \frac{1}{20}$ $\frac{1}{5} = \frac{1}{5} = \frac$
10	Multiply Fractions.	 1st – Multiply the numerators. 2nd – Multiply the denominators. 3rd – Simplify if needed. 	$\frac{1}{3} \times \frac{3}{5}$	$\frac{1^{\text{rt}} \& 2^{\text{nd}}}{\frac{1}{3} \times \frac{3}{5} = \frac{3}{15}} \qquad \frac{3^{\text{rd}}}{1 \qquad 3} \qquad \frac{15}{1 \qquad 15} \qquad \frac{3}{15} \div \frac{3}{3} = \frac{1}{5}$

11	Divide Fraction;.	When the numerators and denominators divide evenly 1 st – Divide the numerators. 2 nd – Divide the denominators. 3 rd – Simplify if needed.	$\frac{\frac{\mathbf{Ex} 1}{36}}{\frac{3}{55} \div \frac{3}{5}} =$	$\frac{1^{\text{st}}, 2^{\text{nd}}, \& 3^{\text{rd}}}{\frac{36}{55} \div \frac{3}{5} = \frac{12}{11}}$
		When the numerators and denominators do NOT divide evenly 1 st – Multiply the first term by the second term's reciprocal. 2 nd –Simplify if needed.	$\frac{\mathbf{Ex 2.}}{\begin{array}{c}1\\2\end{array}}$	$\frac{\frac{1^{st} \& 2^{nd}}{1}}{\frac{1}{2} \times \frac{9}{4} = \frac{9}{8}}$
12	Round	 1st – Underline the determined value. 2nd – Draw an arrow to the right of the underlined number. 3rd – If the arrow is pointing to a number that is between 0-4, ROUND DOWN - the underlined number and 	Ex 1. Round the following number to the tenth place. 1.4135	Ex 1. 1.4135 = 1.4 ∭
		all the digits to the left stay the same. All the numbers to the right of the underlined number become zeros. If the arrow is pointing to a number that is between 5-9, ROUND UP – add 1 to the underlined number, and all the digits to the left stay the same. All the numbers to the right of the underlined number become zeros.	Ex 2. Round the following number to the hundredth place. 7.6863	7.6863 = 7.69 Ū