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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 |  |
| 2 | Order of Operations | The order of which mathematical operations must be carried out. (Multiply \& Divide and Add \& Subtract must be done in the order in which they appear in the problem.) |  |
| 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 | + $\times$ $x^{2}$ <br> - $\div$ $\sqrt{x}$ |
| 4 | Addends | Numbers being added. | $4+7=11$ |
| 5 | Sum | the result obtained by adding |  |
| 6 | Difference | the result obtained by subtracting |  |
| 7 8 | Factors | Numbers being multiplied. the result obtained by multiplying |  |



| 18 | Integer | The collection of integers is composed of the counting numbers, their negatives, and zero; ... -4, -3, $-2,-1,0,1,2,3,4 \ldots$ | Retional Numbers $0 . \overline{9} \quad 1 \frac{1}{2} \quad 5.212 \quad-\frac{10}{3}$ <br> Integers $\ldots .-3,-2,-1,0,1,2,3 \ldots$ |
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| 19 | Rational <br> Numbers | A number that can be expressed as the fraction $\frac{a}{b}$ or $-\frac{a}{b}$ where $a$ and $b$ are whole numbers and $b \neq 0$. | Netural Number: $1,2,3,4,5,6 \ldots$ |
| 20 | Constant | A fixed value. | Terms: $5 x, 7, \sqrt{2}$ |
| 21 | Coefficient | a number multiplied by a variable. |  |
| 22 | Variable | A letter or symbol that represents an unknown quantity. |  |
| 23 | Term | single numbers, variables, or the product of a number and variables |  |
| 24 | Zero Pairs | Two numbers whose sum is zero. |  |
| 25 | Opposite Numbers | the same distance from zero, but in opposite directions (opposite numbers are zero pairs) |  |
| 26 | Absolute Value | The numbers distance from zero on a number line. Is NEVER negative! |  |

How to...

|  | How to... | Steps in Words |  | Example | Example Solved |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Change a fraction into a decimal. | Divide the numerator by the denominator. |  | $\frac{3}{5}$ | $3 \div 5=0.6$ |  |
| 2 | Change a decimal to a fraction. | $\mathbf{1 s}^{\text {st }}$ - Rewrite the fraction with a 1 in the denominator. <br> $\mathbf{2}^{\text {nd }}$ - Multiply the numerator and denominator by $10^{n}$ where " n " is the number of digits behind the decimal point. <br> $\mathbf{3}^{\text {rd }}-$ Simplify if needed. | $\begin{array}{\|l\|l\|} \hline \text { Ex } 10 \\ 0.13 \end{array}$ | $\frac{E \times 20}{0.039}$ | Ex 10 <br> 0.15 $\begin{gathered} \mathbf{1}^{\text {st }} \\ \frac{\text { 2nd }}{13} \times \frac{100}{100}=\frac{13}{100} \end{gathered}$ | $\begin{aligned} & \text { Ex 2. } \\ & 0.039 \\ & \mathbf{1 t}^{\mathbf{4 t} \quad \text { 2nd }} \\ & \frac{0.039}{1} \times \frac{1000}{1000}=\frac{39}{1000} \end{aligned}$ |
| 3 | Change a mixed number into an improper fraction. | $\mathbf{1}^{\text {st }}$ - Multiply the denominator by the whole number. <br> $\mathbf{2}^{\text {nd }}$ - Add this product to the numerator. <br> $\mathbf{3}^{\text {rd }}$ - The denominator stays the same. |  | $4 \frac{1}{3}$ |  | $\frac{2^{\mathbf{n d}} \text { and } \mathbf{3}^{\text {rd }}}{12} 4 \frac{1}{2}=\frac{13}{3}$ |
| 4 | Change a percent to a decimal. | Divide the percent by 100. |  | 37\% | 37 | 00 $=0.37$ |
| 5 | Change a decimal to a percent. | Multiply the decimal by 100. |  | 0.03 | 0.0 | $\times 100=3 \%$ |
| 6 | Simplify Fractions | $\mathbf{1 s}^{\text {th }}$ - Find the Greatest Common Factor (GCF). <br> - List all the factors of the numerator <br> - List all the factors of the denominator. <br> Choose the greatest factor they have in common. <br> $\mathbf{2}^{\text {nd }}-$ Divide the numerator and denominator by the GCF. |  | $\frac{12}{18}$ | 12  <br> 1 12 <br> 2 6 <br> 3 41 <br> 2 <br> 3 | 2nd $\frac{9}{6} \quad \frac{12}{18} \div \frac{6}{6}=\frac{2}{3}$ |


| 7 | Add and subtract fractions with like denominators | $\mathbf{1}^{\mathbf{t t}}$ - Add or subtract the numerators. <br> $\mathbf{2}^{\text {nd }}$ - Keep the denominator the same. <br> $\mathbf{3}^{\text {rd }}-$ Simplify if needed. | $\frac{\text { Ex 10 }}{\frac{5}{8}+\frac{2}{8}}$ | $\frac{\text { Ex 20 }}{\frac{8}{10}-\frac{5}{10}}$ | Ex 1. $\frac{5}{8}+\frac{2}{8}=\frac{7}{8}$ | $\frac{8}{10}-\frac{5 \times 2}{10}=\frac{3}{10}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | Add fractions with unlike denominators | $\mathbf{1}^{\text {tt }}$ - Find the Least Common Multiple of the denominators (LCM). <br> - List the multiples of both denominators. <br> ■ Select the smallest multiple they have in common. (This is your new denominator.) <br> $\mathbf{2}^{\text {nd }}-$ Make your equivalent fractions. <br> $\mathbf{3}^{\text {rd }}$ - Add the numerators. <br> - Keep the denominator the same. <br> $\mathbf{5}^{\text {th }}$ - Simplify if needed. |  | $\frac{3}{4}+\frac{3}{5}$ | $1^{\text {st }}$ <br> 4, 8, 12, 16, 20, 24 <br> 5, 10, 15, 20, 25 <br> 2nd $\frac{3}{4} \times \frac{5}{5}=\frac{15}{20}$ <br> 3rd, 4th, \& 5th $\frac{15}{20}+\frac{12}{20}=\frac{17}{20}$ | $\frac{3}{5} \times \frac{4}{4}=\frac{12}{20}$ |
| 9 | Subtract fractions with unlike denominators. | $\mathbf{1 t}^{\text {th }}$ - Find the Least Common Multiple of the denominators (LCM). <br> - List the multiples of both denominators. <br> ■ Select the smallest multiple they have in common. (This is your new denominator.) <br> $\mathbf{2}^{\text {nd }}-$ Make your equivalent fractions. <br> $\mathbf{3}^{\text {rd }}$ - Subtract the numerators. <br> $4^{\text {th }}$ - Keep the denominator the same. <br> $\mathbf{5}^{\text {th }}$ - Simplify if needed. |  | $\frac{4}{5}-\frac{1}{6}$ | 5, 10, 15, 20, 25, 30, <br> $6,12,18,24,30,36$ <br> 2nd $\frac{4}{5} \times \frac{6}{6}=\frac{24}{30}$ <br> 3rd, 4th, \& 5th $\frac{24}{30}+\frac{5}{30}=\frac{19}{30}$ | 35 $\frac{1}{6} \times \frac{5}{5}=\frac{5}{30}$ |
| 10 | Multiply Fractions• | $\mathbf{1}^{\text {at }}$ - Multiply the numerators. <br> $\mathbf{2}^{\text {nd }}-$ Multiply the denominators. <br> $\mathbf{3}^{\text {rd }}$ - Simplify if needed. |  | $\frac{1}{3} \times \frac{3}{5}$ |  | $$ |


| 11 | Divide Fractions. | When the numerators and denominators divide evenly... $\mathbf{1 t}^{\text {t }}$ - Divide the numerators. <br> $2^{\text {nd }}$ - Divide the denominators. <br> $\mathbf{3}^{\text {rd }}$ - Simplify if needed. | $\frac{5 \times 10}{\frac{36}{55} \div \frac{3}{5}=}$ | $\frac{\mathbf{1}^{\mathbf{s t}}, \mathbf{2}^{\text {nd }}, 8 \mathbf{3}^{\mathbf{r d}}}{\frac{36}{55} \div \frac{3}{5}=\frac{12}{11}}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  | When the numerators and denominators do NOT divide evenly... $\mathbf{1 s}^{\mathbf{4 t}}$ - Multiply the first term by the second term's reciprocal. $\mathbf{2}^{\text {nd }}$-Simplify if needed. | $\frac{E x 20}{\frac{1}{2} \div \frac{4}{9}}$ | $\frac{1^{5 t} \& 2^{\text {nd }}}{\frac{1}{2} \times \frac{9}{4}=\frac{9}{8}}$ |
| 12 | Round | $\mathbf{1}^{\text {st }}$ - Underline the determined value. $\mathbf{2}^{\text {nd }}-$ Draw an arrow to the right of the underlined number. $3^{\text {rd }}$. <br> If the arrow is pointing to a number that is between 0-4, ROUND DOWN - 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. <br> - 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 1. <br> Round the following number to the tenth place. $1.4135$ | Ex 10 <br> 1.4135 |
|  |  |  | Ex 2. <br> Round the following number to the hundredth place. 7.6863 | Ex20 |

