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## Vocabulary Words and Definitions for Algebra

| Word/Phrase | Definition |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Absolute Value | The distance between zero and the point representing a real number on the number line |  |  |  |
| Additive Inverse | The opposite of a number |  |  |  |
| Algebraic Expression | An expression that contains at least one variable |  |  |  |
| Ascending Order | Putting terms in order "going up" based on the exponents |  |  |  |
| Associative Property | For any numbers $\mathrm{a}, \mathrm{b}$, and $\mathrm{c}:(\mathrm{a}+\mathrm{b})+\mathrm{c}=\mathrm{a}+(\mathrm{b}+\mathrm{c})$ and $(a b) c=a(b c)$ |  |  |  |
| Axis of Symmetry | The line that divides a graph into two symmetrical parts that are mirror images or each other |  |  |  |
| Base | The repeated factor of a number written in exponential form |  |  |  |
| Binomial | A polynomial consisting of two terms |  |  |  |
| Coefficient | This is the number in front of the variables in a term |  |  |  |
| Combine Like Terms | Add or subtract terms that have the same variable and exponent |  |  |  |
| Commutative Property | For any numbers $\mathrm{a}, \mathrm{b}$ and $\mathrm{c}: \mathrm{a}+\mathrm{b}+\mathrm{c}=\mathrm{a}+\mathrm{c}+\mathrm{b}$ and $a b c=c b a$ |  |  |  |
| Completing the Square | The process of rewriting a quadratic equation so that one side is a perfect square trinomial |  |  |  |
| Compound Inequality | Two inequalities that are combined into one statement by the word and or or |  |  |  |
| Consistent System | A system of equations that has at least one solution |  |  |  |
| Constant | A term with no variables |  |  |  |
| Converse | Opposite |  |  |  |
| Coordinate Plane | Formed by two number lines that intersect at their zero points |  |  |  |
| Coordinates | Ordered pairs that identify points on a plane |  |  |  |
| Deductive Reasoning | The process of using logic to draw conclusions |  |  |  |
| Denominator | The lower half of a fraction |  |  |  |
| Dependent System | A system of equations that has infinitely many solutions |  |  |  |
| Descending Order | Putting terms in order "going down" based on the exponents |  |  |  |


| Word/Phrase | Definition |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Difference | The answer to a subtraction problem |  |  |  |
| Difference of Two Squares | A binomial whose terms are squares and have a minus sign between them |  |  |  |
| Direct Variation | A linear relationship between two variables where there is a non-zero number $k ; y=k x$ |  |  |  |
| Discriminant | The expression inside the radical of the quadratic formula |  |  |  |
| Distributive Property | For any real numbers $\mathrm{a}, \mathrm{b}, \mathrm{and} \mathrm{c}, \mathrm{a}(\mathrm{b}+\mathrm{c})=\mathrm{ab}+\mathrm{ac}$ |  |  |  |
| Domain | The set of all first coordinates (x-values) of a relation or function |  |  |  |
| Elimination Method | Used to solve systems in which one variable is eliminated by adding or subtracting two equations in the system |  |  |  |
| Equation | A mathematical sentence with an equal sign |  |  |  |
| Equivalent Expressions | Expressions that are equal to each other |  |  |  |
| Equivalent Inequalities | Inequalities that have the same solution set |  |  |  |
| Evaluate | Replace each variable with a number and follow the order of operations |  |  |  |
| Expand | Means to multiply |  |  |  |
| Exponent | The number of times the base is used as a factor |  |  |  |
| Extraneous Solution | An answer that does not satisfy the original equation |  |  |  |
| Factor | An integer that divides another integer with no remainder |  |  |  |
| Factored Form | Rewriting a polynomial as the product of two or more factors |  |  |  |
| Factorization | A representation of an expression as a product of two or more expressions |  |  |  |
| Fractional Exponent | An exponent that can be written as $m / n$ where $\mathrm{n} \neq 0$ |  |  |  |
| Function | A relation in which every domain value is paired with exactly one range value |  |  |  |
| Function Notation | If x is the independent variable and y is the dependent variable, then for $y$ is $f(x)$, read " $f$ of $x$ ", where $f$ names the function |  |  |  |
| Graph | Drawing a line to represent the solutions to an equation or inequality |  |  |  |
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| Word/Phrase | Definition |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Greatest Common Factor | The largest number that divides into two terms |  |  |  |
| Grouping Symbols | Symbols such as parentheses ( ), brackets [ ], and braces \{ \} that separate a part of an expression. A fraction bar, absolute value symbols and radical symbols may also be used as grouping symbols |  |  |  |
| Inconsistent System | A system of equations that has no solution |  |  |  |
| Independent System | A system of equations that has exactly one solution |  |  |  |
| Inequality | A sentence that uses one of the following symbols: $<,>, \leq, \geq$ |  |  |  |
| Infinite Solutions | When the answer to a system of equations is exactly the same |  |  |  |
| Integer | The set of whole numbers and their opposites |  |  |  |
| Intersection | The set of all elements that are common to both sets, denoted by a $\cap$ |  |  |  |
| Inverse Operations | Two operations that undo each other, such as addition and subtraction |  |  |  |
| Inverse Variation | A non-linear relationship between two variables where there is a non-zero number $k ; y=k / x$ |  |  |  |
| Irrational Number | A number that can be represented by a non-repeating, non-terminating decimal |  |  |  |
| Isolate the Variable | Collecting like terms and/or using inverse operations to get the variable by itself on one side of the equation |  |  |  |
| Least Common Denominator | The smallest denominator that two or more numbers have in common |  |  |  |
| Least Common Denominator | The smallest denominator that two or more numbers have in common |  |  |  |
| Like Terms | Terms with the same variables raised to the same exponent |  |  |  |
| Linear Equation | An equation written with one or more variables where the exponent of the variable is one |  |  |  |
| Linear Inequality | An inequality written with one or more variables where the exponent of the variable is one |  |  |  |
| Monomial | A polynomial consisting of one term |  |  |  |
| Multiple | The products of this number and any non-zero number |  |  |  |


| Word/Phrase | Definition |  |  | ( ${ }_{\text {z }}^{0}$ |
| :---: | :---: | :---: | :---: | :---: |
| Multiplicative Identity Property | Any number multiplied by one is that number |  |  |  |
| Multiplicative Inverse | The reciprocal of a number |  |  |  |
| Multiplicative Property of <br> Zero | Any number multiplied by zero is zero |  |  |  |
| Natural Number | The set of counting numbers |  |  |  |
| No Solution | When there is no answer to a system of equations or inequalities |  |  |  |
| Numerator | The upper half of a fraction |  |  |  |
| Numerical Expression | An expression that represents a particular number |  |  |  |
| Opposites | Numbers that have the same distance from 0 on a number line |  |  |  |
| Order of Operations | The rules for evaluating an expression involving more than one operation |  |  |  |
| Ordered Pair | A pair of numbers ( $\mathrm{x}, \mathrm{y}$ ) used to identify a point in a coordinate plane |  |  |  |
| Origin | The intersection of the $x$ axis and $y$ axis on the coordinate plane |  |  |  |
| Parabola | An up-turned or down-turned U-shaped graph |  |  |  |
| Parallel | Lines or planes that never intersect |  |  |  |
| Perfect Square | The square of an integer |  |  |  |
| Perfect Square <br> Trinomial or Trinomial Square | Can be factored as the square of a binomial |  |  |  |
| Perpendicular | Lines or planes that intersect to form right angles |  |  |  |
| Point-Slope Equation | A non-vertical line that contains a point ( $\mathrm{x} 1, \mathrm{y} 1$ ) and has a slope of m and is found in the format of $\mathrm{y}-\mathrm{y} 1=$ $\mathrm{m}(\mathrm{x}-\mathrm{x} 1)$ |  |  |  |
| Polynomial | A monomial or sum of monomials |  |  |  |
| Power | An expression written with a base and an exponent |  |  |  |
| Prime Factorization | A representation of a number or a polynomial as a product of primes |  |  |  |
| Prime Number | A whole number greater than or equal to 2 that has exactly two positive factors, 1 and itself |  |  |  |
| Product | The answer to a multiplication problem |  |  |  |
| Properties of Equality | Rules that transform an equation into an equivalent equation |  |  |  |
| Property | A law that is followed in mathematics |  |  |  |


| Word/Phrase | Definition |  | ( |  |
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| Quadrant | One of the four regions into which coordinate axes divides a plane |  |  |  |
| Quadratic Expression | A collection of terms that has one term that contains a variable to the second power |  |  |  |
| Quadratic Formula | Used to find solutions to an equation that has a term with a variable to the second power |  |  |  |
| Quotient | The answer to a division problem |  |  |  |
| Rate | A ratio that compares two quantities measured in different units |  |  |  |
| Ratio | The relationship $\mathrm{a} / \mathrm{b}$ of two quantities, a and b |  |  |  |
| Rational Expression | A fraction whose numerator and denominator are nonzero polynomials |  |  |  |
| Rational Number | Any number that you can write as a quotient of two integers $a / b$ where $b$ is not 0 |  |  |  |
| Rational Number | Any number that you can write as a quotient of two integers $a / b$ where $b$ is not 0 |  |  |  |
| Real Number | The set of numbers that include all rational and irrational numbers |  |  |  |
| Reciprocal | For a real number, $\mathrm{a} \neq 0$, this is $1 / \mathrm{a}$ |  |  |  |
| Repeating Decimal | A rational number that has a block of one or more digits (that are not all zero) after the decimal point that continually show up |  |  |  |
| Replacement Set | A set of numbers that can be substituted for a variable |  |  |  |
| Rise | The difference in the $y$-values of two points on a line |  |  |  |
| Run | The difference in the x -values of two points on a line |  |  |  |
| Simplest Form | Is where the only common factor of a numerator and denominator is 1 |  |  |  |
| Simplest Form | Is where the only common factor of a numerator and denominator is 1 |  |  |  |
| Simplified Expression | To replace with an equivalent expression having as few terms as possible |  |  |  |
| Simplify | Put expressions into their most reduced form |  |  |  |
| Slope | A measure of steepness of a line, represented by $m$ |  |  |  |
| Slope-Intercept Form | A line with slope $m$ and $y$-intercept $b$ has an equation $y=m x+b$ |  |  |  |
| Solution | A value that makes the equation true |  |  |  |


| Word/Phrase | Definition |  |  |  |
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| Solution of a Liner Inequality | Answers that make an inequality true |  |  |  |
| Solve | To find a solution to an equation or inequality |  |  |  |
| Standard Form of an Equation | $A X+B Y=C$ where $A, B$ and $C$ are constants, there are no fractions and A must be positive |  |  |  |
| Standard Form of Polynomials | When the terms of a polynomial are in order from greatest to least based on the value of the exponent |  |  |  |
| Substitution Method | A method used to solve systems by solving an equation for one variable and replacing the resulting expression into the other equation |  |  |  |
| Sum | The answer to an addition problem |  |  |  |
| System of Equations | A set of two of more linear equations that contain 2 or more variables |  |  |  |
| Terminating Decimal | A rational number that has a finite number of digits after the decimal point |  |  |  |
| Terms of an Expression | The parts that are added or subtracted from an expression |  |  |  |
| Trinomial | A polynomial consisting of three terms |  |  |  |
| Undefined | When there is no solution to the problem |  |  |  |
| Union | The set of all elements, denoted by a $U$ |  |  |  |
| Variable | A letter that represents one or more numbers |  |  |  |
| Variable Expression | A symbolic form made up of constants, variables and operations |  |  |  |
| Whole Number | A number system that includes the Natural Numbers and Zero |  |  |  |
| X-Axis | The horizontal number line of a coordinate plane |  |  |  |
| X-Intercept | The point where a graph intersects the x-axis |  |  |  |
| Y-Axis | The vertical number line of a coordinate plane |  |  |  |
| Y-Intercept | The point where a graph intersects the $y$-axis |  |  |  |

