| Algebra | The study of generalized arithmetic. In algebra, unknown numbers can be represented by letters in order to solve equations. For example, $4+x=10$ is true for $x=6$. Algebra (originally called al-jabr) was invented in the Middle East by Abu Ja'far Muhammad ibn Musa Al-Khwarizmi (born in Baghdad about AD 825) during the Middle Ages. |
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| Area | The number of square units contained within the region. For example, the area of a square with a sides of length s is $\mathrm{A}=\mathrm{s}^{2}$. The area of a rectangle is $\mathrm{A}=$ length ${ }^{*}$ width. The area of a parallelogram is $\mathrm{A}=$ base*height. The area of a triangle is (1/2)base*height. The area of $a$. The area of a circle is $A=>\pi r^{2}$ |
| Average | Also called the mean, it is the sum of the numbers divided by the number of numbers. <br> Example: 1,4,6,9 <br> $(1+4+6+9) / 4=5$. |
| Binomial | $2 x+3 y$ <br> A polynomial expression that has two terms |
| Calculator | A machine that solves math problems you can't do in your head (GET ONE!) |
| Cartesian System | Coordinate system with two axes ( x is the horizontal axis and y is the vertical axis). Every point on the plane can be located by an ordered pair ( $\mathrm{x}, \mathrm{y}$ ), which notes its distance from the x -axis and from the $y$-axis. The axes meet at the origin, the point $(0,0)$. |


| Coordinates | coordinates <br> Ordered pair of numbers that show the location of a point on the $x-y$ plane. Every point on the plane can be located by a pair of coordinates ( $\mathrm{x}, \mathrm{y}$ ), which notes its distance from the x -axis and the $y$-axis. |
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| Equation | A mathematical statement that contains an equal sign, like $\mathrm{ax}+\mathrm{b}$ $\begin{gathered} =c . \\ 1+1=2 \end{gathered}$ <br> or $3-x=2$ |
| Exponent | A power that a number is raised to. For example, in $2^{3}$, the exponent is 3 . |
| Expression | An algebraic expression consists of one or more variables, constants, and operations, like $3 x-4$. Each part of an expression that is added or subtracted is called a term For example, the expression $4 x^{2}-2 x+7$ has three terms. |
| FOIL | $(a x+b)(c x+d)$ <br> Stands for First, Outer, Inner, Last. It refers to a method of multiplying two binomials, like $(\mathrm{ax}+\mathrm{b})(\mathrm{cx}+\mathrm{d})$. To multiply, you must multiply each term out. $\begin{gathered} \text { For example, }(2 x+3)(4 x+5)= \\ 8 x^{2}+10 x+12 x+15= \\ 8 x^{2}+22 x+15 . \end{gathered}$ |


| Graph |  <br> Diagram that shows relationships between things. |
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|  | = Equal |
|  | $>$ Greater Than $2>1$ |
|  | $<$ Less Than $1<3$ |
| Inequality | A mathematical expression that contains an inequality symbol. <br> The inequality symbols are : $\begin{aligned} &<\text { less than }(1<2) \\ &>\text { greater than }(2>1) \\ & \leq \text { less than or equal to } \\ & \geq \text { greater than or equal to } \\ & \neq \text { not equal to }(1 \neq 2) . \end{aligned}$ |
| Less Than | When one number is less than a second number, the first one is smaller than the second. For example, 1 is less than 2 , which is written $1<2$. |
| Line | a set of points that form an infinitly long straight path. |
| Linear Equation | A first degree equation (no exponents). <br> For example, $\mathbf{y}=\mathbf{m x}+\mathbf{b}$ <br> When graphed, you get a line. |
| Line Segment | A piece of a line. |
| Median | $\{1,2,5,8,10\}$ <br> The middle number (when the numbers are in order). When the number of numbers is odd, the median is the middle number; when the number of numbers is even, the median is the average of the two middle numbers. For example, the median of the set $\{1,2,5,8,10\}$ is 5 . The median of the set $\{1,2,5,6,9,10\}$ is 5.5 .. |
| Monomial | A polynomial expression with only one term. For example, $\mathbf{3} \mathbf{x y}$ is a monomial; the number $\mathbf{6}$ is also a monomial. |


| Order of Operations | Brackets, Exponents, Multiplication, Division, Addition, and Subtraction. <br> BEDMAS |
| :---: | :---: |
| Origin |  <br> The point $(0,0)--$ where the x and y axes meet. |
| Ordinate |  <br> Ordinate is another name for the $y$-axis (the vertical axis). The ordinate is the second number in a point $(\mathrm{x}, \mathrm{y})$. |
| Pattern | Something that is repeated, like a design or a series of numbers. |
| Perimeter | The distance around the edges of a figure. The perimeter of a square with side length a is $\mathrm{P}=\mathrm{a}+\mathrm{a}+\mathrm{a}+\mathrm{a}=4$ times a . The perimeter of a circle is $\mathrm{P}=2 \pi \mathrm{r}$. The perimeter of a regular polygon is $\mathrm{P}=\mathrm{ns}$ (where n is the number of sides and s is the side length). |
| Point | An exact location |


| Product | $\begin{aligned} & 5 \leftarrow \text { multiplicand } \\ & \times 2 \leftarrow \text { multiplier } \\ & \hline 10 \leftarrow \text { product } \end{aligned}$ <br> The answer in a multiplication problem. (For division it would be called the quotient) |
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| Quadrant | A quarter of a plane. The $x$-axis and $y$-axis divide the $x-y$ plane into four quadrants. The axes themselves are not part of the quadrants. |
| Slope | slope <br> The steepness of a line (also called the rise over the run). To find the slope of a line, look at any two points on the line, $\left(\mathrm{x}_{1}, \mathrm{y}_{1}\right)$ and $\left(\mathrm{x}_{2}, \mathrm{y}_{2}\right)$ and determine the rise/run, or $\left(\mathrm{y}_{2}-\mathrm{y}_{1}\right) /\left(\mathrm{x}_{2}-\mathrm{x}_{1}\right)$. When a linear equation is in the form: $y=m x+b, m$ is the slope of the line (and b is the y -intercept). |
| Trinomial | $2 x+3 y+6$ <br> A polynomial expression that has three terms |
| Variable | An unknown or placeholder in an algebraic expression. For example, in $2 \mathrm{x}+\mathrm{y}, \mathrm{x}$ and y are variables. |
| x-axis |  |



