**NUTS & BOLTS - ALGEBRA 1**

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| **THE BASICS UNIT**  |
| * When **Solving an Equation**, your goal is to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To get rid of a fraction when it is directly next to a variable,

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* The coefficient of the first term in a polynomial in standard form is called the

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* The **DEGREE** of a polynomial is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* STUDY YOUR PROPERTIES on note sheet **BASICS-5**.
* **IRRATIONAL NUMBERS*****cannot*** be made into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When using **Interval Notation**, Square Brackets mean \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and Parentheses mean \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When **Simplifying a Radical**, put the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the first branch!
* When working with **Dimensional Analysis**, start with

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_! |

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| **UNIT 1** |
| * Sum, Exceeds, More than, Increased by:
* Difference, Less than, Fewer than, Decreased by, Reduced by:
* Product, Of:
* Quotient:
* Be careful when translating ***less than, fewer than, subtracted from***:
* Is means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* What does an equation have that an expression does not have?
* To **Add** Polynomials:
* To **Subtract** Polynomials:
* To **Multiply** Polynomials:
* To **Divide** Polynomials:
* An equation that contains more than one variable is called a

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* When solving, get rid of squaring with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* In a comparison word problem, always let *x* be whatever is \_\_\_\_\_\_\_\_\_\_\_\_\_ in the comparison sentence!
* In word problems, always ask yourself

  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?* In word problems, be sure to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* Don’t forget that coins have different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Incorporate these into your equation.
* Consecutive integers go up by \_\_\_\_\_\_\_\_\_\_\_.
* Consecutive even integers go up by \_\_\_\_\_\_\_\_\_\_.
* Consecutive odd integers go up by \_\_\_\_\_\_\_\_\_\_\_\_.
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| **UNIT 2** |
| * The first method of **FACTORING** to look for is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To find GCF on the calculator, press \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The *Difference of Two Square*s is referred to as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To factor a trinomial with a lead coefficient of 1, use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To factor a trinomial with a lead coefficient other than 1, use

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* You may also be asked to factor using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **FACTOR COMPLETELY** means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
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| **UNIT 3** |
| * **Rate of Change** =
* The *rate of change* of a line can also be called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The general form for an equation of a line is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Domain**:
* **Range**:
* A **Function** passes the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* A **One-to-One Function** passes the \_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* *f(x)=* is the same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To solve a **Linear System of Equations** graphically, graph each line and state

 the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

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| **UNIT 4** |
| * To evaluate **Function Notation**, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!
* A **Function** has no repeated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* A **One-to-One Function** has no repeated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To find the ***x*-intercept** algebraically, plug in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To find the ***y*-intercept** algebraically, plug in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To solve a **Linear System of Equations** algebraically, use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Remember, you must have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_! |

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| **UNIT 5** |
| * **At least** means
* **At most** means
* When **Solving an Inequality**, if you multiply or divide by a negative, you must

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* When **Graphing an Inequality**, you must decide on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and you must \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* Make a dotted boundary for the symbols:
* Make a solid boundary for the symbols:
* Shade the half-plane above the line for the symbols:
* Shade the half-plane below the line for the symbols:
* When graphing a **System of Inequalities**, put an \_\_\_\_\_\_\_\_\_where the shading overlaps.
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| **UNIT 6** |
| * **Quadratic Equations** have an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Solving Quadratics Methods: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* When using **Inspection**, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the squared term and then

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ both sides. (Sometimes, you may have to use\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ first!)* When using **T-Bar**, get the equation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* Use the **Quadratic Formula** as a last resort! (on the reference sheet)
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| **UNIT 7** |
| * When you **Graph a Quadratic**, the shape is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The highest spot on a parabola is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the

lowest spot is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* The **VERTEX** can also be called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The line drawn through the vertex is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Values the graph crosses the *x*-axis are called the \_\_\_\_\_\_\_\_\_\_ or the \_\_\_\_\_\_\_\_\_\_.
* A **Quadratic-Linear System of Equations** consists of a

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* A function that is symmetric about the *y*-axis is \_\_\_\_\_\_\_\_\_\_\_\_\_ and a function

that is symmetric about the origin (upside down test) is called \_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **UNIT 8** |
| * The standard form for a quadratic is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The vertex form for a quadratic is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To change a quadratic from standard form to vertex form, you use

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* The formula for the **AXIS OF SYMMETRY** is:
* When you solve a quadratic, the solutions are called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or

 the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. To find the zeros, replace *f(x)* with \_\_\_\_\_\_\_\_\_\_!* To solve a **Quadratic-Linear System of Equations** algebraically, set the

 equations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

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| **UNIT 9** |
| * The standard form of an **Exponential** is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* In the equation, *a* represents the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, *b* represents

the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and *x* represents \_\_\_\_\_\_\_\_\_\_\_.* If the exponential is increasing, it represents \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* If the exponential is decreasing, it represents \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The rate of change for an exponential will have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
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| **UNIT 10** |
| * You should be able to graph **SQUARE ROOT**, **CUBIC**, **CUBE ROOT**, **ABSOLUTE VALUE**, and **PIECEWISE** functions.
* If a sequence has a *common difference*, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* If a sequence has a *common ratio*, it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To find the *n*th term of a sequence, use the formula on the reference sheet!
* In a recursive formula, block out the notation and find the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* To write an explicit formula, use the reference sheet formula and plug in

everything except \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* When *f(x)* is transformed into *f(x) + k*, this is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When *f(x)* is transformed into *f(x+k)*, this is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When *f(x)* is transformed into *–f(x)*, this is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When *f(x)* is transformed into *f(-x)*, this is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When *f(x)* is transformed into  and , the graph gets \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When *f(x)* is transformed into  and , the graph gets \_\_\_\_\_\_\_\_\_\_\_.
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| **UNIT 11** |
| * You should know these statistical graphs: **HISTOGRAM, DOT PLOT**, **BOX PLOT**, **TWO-WAY FREQUENCY TABLE**, and **SCATTER PLOT**.
* The **Mean** is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is represented by \_\_\_\_\_\_\_\_\_\_\_\_.
* The **Median** is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The **Mode** is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The **Range** is the difference between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The **Interquartile Range** (IQR) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Standard Deviation** is represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The variable on the *x*-axis is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variable

and the variable on the *y*-axis is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_variable.* The **Line of Best Fit** can also be called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* When the calculator gives you the equation for the line or curve of best fit,

you are performing a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* The **Correlation Coefficient** is represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_. All correlation

coefficients must be between \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. To find the correlation coefficient on the calculator, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* When a change in one variable produces a change in the other, the variables

are said to have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ relationship.* To find a residual:
* In a residual plot, a line is the best fit if the points are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A line is not the best fit if the points \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.The closer the residual plots are to the *x*-axis, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |