Honors Math 3 – Valentine & Character Education
Piece – wise Brochure Project Rubric

The goal of this project is to creatively demonstrate your knowledge of piece – wise graphs by creating a story centered on one of the Character Traits.

1. Each student will creatively present a "Clean and Legal" brochure that includes a Valentine's Theme story to match the graph in Unit 1 More Functions & More Features – similar to page 1of the Workbook and neatly work out Unit 1 – page 15 # 7 – 10.

2. One of the eight Character Traits must be incorporated into the Valentine's Theme of the Piece – wise story: *Courage, Self – Discipline, Perseverance, Integrity, Respect, Responsibility, Kindness, & Good – Judgement.*

3. Within each Piece – wise Story the following vocabulary words/phrases must be underlined/highlighted with the story:

Piece-wise	Sub-function	Linear	Nonlinear
Quadratic	Parabola	Set notation	Standard form
Union	Intersection	Point-slope form	Slope-intercept form
Intercept	Slope	Positive	Negative
Increasing	Decreasing	Function	Maximum
Minimum	Constant	Rate of change	Interval notation
Domain	Range	Absolute value	Continuous
Parent function	Reflect	Vertical stretch	Horizontal stretch
Transformations	Variable	Inequality	Expression
Exponential	Equation	Coefficient	Exponent

Grade Potential Categories of vocabulary usage:

A 40 – 30	B 29 – 25	C 24 – 20	D 19 - 15

4. Each student will make a 3- panel brochure. Each **"Inner"** panels will contain:

1st Panel	*2nd Panel*	*3rd Panel*
Piece – wise Story with a Title & Create 3 Challenging Questions about the graph/story – similar to the ones from class.	Piece – wise Graph & Piece – wise Function. The answers to the questions from the previous panel in complete sentences.	Unit 1 – Page 15 # 7 Table, Graph, & Piece – wise Function
		# 8 Absolute Value Equation & Graph

5. Each "Outer" panels will be the following:
   a. Back Panel – Reflective Summary that answers the following questions and a picture:
      i. What specifically did I learn & how specifically did I learn it?
      ii. How is what I learned significant?
      iii. How can I translate what I learned to other areas?
      iv. How did I feel about the project and my efforts?
      v. What were some of the best parts of the assignment?
      vi. What did I like/dislike about the project?

   b. **"Outer"** Panel Criteria:

Back Panel	Middle Panel	Front Panel
Unit 1 – Page 15 #9 Equation, Table, & Graph #10 Piece – wise Function, Graph *EC = Story for #10*	How did you address each Math Standard in this Assignment? See the Math Standard's List in the Unit 1 Packet Pages.	"Catchy Title" Picture Inspirational/ Character Educational Quote (State the Character Education Trait, the Quotation's Explanation, and cite the quote's source.) Student's Name Class Name / Period Teacher's Name & Date Character Trait Used Total Number of Mathematical Vocabulary Words Used in Piece – wise Story

6. Grading Scale:

30 pts	Inner Panel Requirements – 1st, 2nd, & 3rd Panel (see above)
30 pts	Outer Panel Requirements – Back, Middle, & Front (see above)
20 pts	Computer Usage, Desmos Usage, Graphs, and Charts
10 pts	Creativity, Originality, & Neatness
<u>10 pts</u>	Promptness (10 pts = on time or 10 pts off for each day late) Due Feb. 12th
100 pts	Total Possible Points

7. Good Luck and Have Fun!

Unit 1 –Honors Math 3 – Standards "More Functions, More Features"

NC.M3.A-SSE.1a	a. Identify and interpret parts of a piecewise, absolute value, polynomial, exponential and rational expressions including terms, factors, coefficients, and exponents.
NC.M3.A-CED.1	Create equations and inequalities in one variable that represent absolute value, polynomial, exponential, and rational relationships and use them to solve problems algebraically and graphically.
NC.M3.A-CED.2	Create and graph equations in two variables to represent absolute value, polynomial, exponential and rational relationships between quantities.
NC.M3.F-IF.2	Use function notation to evaluate piecewise defined functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
NC.M3.F-IF.4	Interpret key features of graphs, tables, and verbal descriptions in context to describe functions that arise in applications relating two quantities to include periodicity and discontinuities.
NC.M3.F-IF.7	Analyze piecewise, absolute value, polynomials, exponential, rational, and trigonometric functions (sine and cosine) using different representations to show key features of the graph, by hand in simple cases and using technology for more complicated cases, including: domain and range; intercepts; intervals where the function is increasing, decreasing, positive, or negative; rate of change; relative maximums and minimums; symmetries; end behavior; period; and discontinuities.