Algebra 1 Final Project

Choice Board: five Stars

For your final exam grade, you will complete one (or more) of the following projects. You must earn at least five stars overall. Use the next page to find topics. You must cover at least 5 math topics (bullet points) overall. You can find all of the information and rubrics for the project below at http://rhsalgebra1.weebly.com/

one star ☆	three stars ☆☆☆	five stars ☆☆☆☆☆
brochure Create a brochure over one topic. Your brochure should include solved example problems and the steps you use to solve!	**math interview** Conduct an interview with someone who does not live in your home about how they use math in their life and job. Complete a reflection. See the project description for more information. **You may complete only one interview**	**make a game!** Create a math game that relates to the algebra concepts we have covered this year. Your game should include at least 5 topics that re-teach or reinforce the objectives we have already learned this year. See the project description for more information.
poster Create a poster over one topic. Your poster should be on a full poster board and include solved example problems and the steps you use to solve!		
presentation (slide show) Create a presentation over one topic. The presentation should be on powerpoint, prezi, google slides, or another approved application. Your presentation should include solved example problems and the steps you use to solve.		
book Create a book over one topic. Your book should have at least 8 pages, including a cover. The book should include solved example problems and steps you use to solve.	**calculator project** You will create a calculator manual to help fellow students effectively use the calculator to solve math problems. See the project description for more information. **You may complete only one calculator manual**	
song Create a song or rap over one topic. You must email or upload your video or mp3.		
math autobiography Write a one-page "autobiography" of your experiences with math. See the project description for more information.		
create your own one-star project (with teacher approval!!)		

Possible Topics Use your notebook, exam review, and past assessments to find procedures, steps, and example problems.

Unit 1

- Writing Expressions and Equations
- Writing Inequalities
- Solving Equations
- Solving Inequalities
- Literal Equations

Unit 2

- Domain and Range
- Identifying Functions
- Evaluating Functions
- Arithmetic Sequences
- Geometric Sequences

Unit 3

- Finding Slope
  - From a Table
  - From a Graph
  - From an Equation
  - From two points
- Slope Real World Applications
- Direct Variation
- X & Y intercepts
- Solving for y
- Slope-Intercept Form
- Point-Slope Form
- Standard Form
- Parallel Lines & their slopes
- Perpendicular Lines & their slopes
- Linear Parent Function
- Transformations
- Graphing Inequalities in two variables

Unit 4

- Writing Systems from a Situation
- Number of Solutions of a System
- Solving Systems by Substitution
- Solving Systems by Elimination
- Solving Systems by Graphing
- Which method to solve
- Systems of Inequalities

Unit 6

- Exponent Rules
- Rational Exponents & Radical Expressions
- Adding & Subtracting Polynomials
- Multiplying binomials
- Multiplying polynomials

Unit 7

- Four Term Factoring
- Factoring Trinomials (AC Method/Box)
- Greatest Common Factor
- Difference of Squares

Unit 8

- Properties of Quadratics (vertex, roots, axis of symmetry, etc)
- Transformations of quadratics ($y = ax^2 + c$)
- Solving Quadratics by… Factoring
- Solving Quadratics by… Square Roots
- Solving Quadratics by… Quadratic Formula
- Solving Quadratics by… Graphing
- Solving Quadratic word problems
- Simplifying Square Roots
- Writing Quadratic Functions given Roots
- Vertex Form
- Completing the Square

Unit 9

- Graphing Exponentials
- Writing Equations of Functions
- Exponential Growth & Decay
- Identifying Linear, Quadratic, and Exponential from Tables, Graphs, and Equations