Design a Brochure
Honors Algebra 2 Project
"Quadratic Functions"

Purpose: For this project, you will be working as a group of two to design a tri-fold brochure or an alternate display that will summarize what you have learned during your study of the unit on quadratic functions. The only exception to working as a group of two is if there is an extra student in the class and that person is assigned by the teacher to be part of a group of three. You may not work on this project alone. Your group participation is an integral part of your grade; therefore if you do not work as a group, the highest score you can get for this project is a 50%.

Technology Requirements: The use of technology is required in order to complete this project. You have a number of options available to you. If you are using Microsoft Word or Microsoft Publisher, you can create a tri-fold brochure. Templates for creating tri-fold brochures can be found on-line. If you are using Microsoft PowerPoint, you can create a slide show for your project. Another alternative is to use the on-line glogster web site (http://www.glogster.com/) to create an on-line poster. You are not limited to the technology listed above, but you must have your choice of technology approved by your teacher before completing this project.

Team Members: All team members must play an active role in completing this project. Each person will take responsibility for completing certain "jobs". In order to ensure that this happens, each team member will grade the other members of their team at the end of the project using the attached peer evaluation form. If you do not participate in the completion of this activity, you will not receive the credit for this assignment.

Grading: This project will count as a test for term 2. You will be graded using the attached rubric as well as your peer evaluation form. In addition, this project will also be used to assess your progress in the "Innovation" learning expectation. This grade will be a part of your overall grade and will also be reported out separately on your second term report card. *Ten points will be deducted from your grade for each day the project is late*.

Project Requirements: The following information must be included on your project:

- **Cover Page**
  - For a brochure, this must include a title for your brochure and the names of the group members.
  - For a PowerPoint presentation, this must include a title for your slide show and the names of the group members.
  - For an on-line poster, this must include a title for your poster and the names of the group members

- **Vocabulary Section**: These vocabulary terms must be defined in your own words. The definitions can be placed on one panel of a brochure, can be placed on one slide of a PowerPoint, can be placed in a section of the poster, or can be integrated into the presentation in some way. You have ***2 days*** to define these words and submit your definitions to your teacher for approval.
    - Axis of symmetry
    - Discriminant (include irrational, rational and complex explanation)
    - Maximum/Minimum Point
    - Maximum/Minimum Value
    - Quadratic Formula
    - Standard Form
    - Vertex
    - Vertex Form
    - Zeros/Roots/Intercepts
- **Description Sections**: If working in a group of two, you may choose four of the following topics to place on your project. If you are working in a group of three, you must include all of the following topics. You will be assigned unique problems that you will use for each section. You have ***1 week*** to do this work on a separate sheet of paper and submit it to your teacher for approval before it can be placed on your project.
    - **Finding Roots**
        - Using Factoring
        - Using the Quadratic Formula
        - By Completing the Square
    - **Graphing a Quadratic Function**
        - Direction of opening
        - Axis of symmetry
        - Vertex
        - Y-intercept
        - Table
        - Maximum/minimum value
    - **Discriminant**
        - One real solution
        - Two real solutions
        - Complex Solutions
    - **Writing a Quadratic Equation**
        - Given the roots
        - Transform from standard form to vertex form
    - **Vertex Form of a Quadratic Function**
        - With no number in front of the x^2 term
        - With a number in front of the x^2 term
        - Using the square root property
    - **Transformations**
        - Vertical shift

    - Vertical stretch and shrink
    - Horizontal shift
    - Horizontal stretch and shrink
    - Reflections over the x-axis and y-axis
- **Word Problem**: Each group will be assigned a real-life word problem that must be solved and included on your project. You will have ***3 days*** to do this word problem on a separate sheet of paper to submit to your teacher for approval before it is placed on your project

Once all of your work has been approved by your teacher, you will have ***1 week*** to place this information on your brochure, PowerPoint, or poster.

Timeline Summary for Completion:

	Due Date
Vocabulary	
Teacher Review and Approval	
Description Section	
Teacher Review and Approval	
Word Problem	
Teacher Review and Approval	
Presentation Completion	

Audience: Assume that the audience for this brochure is someone who is not familiar with the information. Be creative. Include all graphs/illustrations necessary to understand your explanation. You can also include illustrations just for fun or decoration as long as it does not take away from understanding the material.