Project Quadratic

*50 Points* (See Attached Rubric)

You will create a booklet with examples that walks through all of the steps needed to effectively solve a quadratic equation. Please work every problem out, showing all steps. You can use problems from the book or problems you have done for homework. You have many quadratic equations to choose from! Also, follow the guidelines below:

1. Fasten 5-6 sheets of graph paper together. Leave the cover blank and put tabs on the rest of the sheets for each method below.

Tab 1: Graphing and Solving Quadratics by factoring, include the following:

* Two examples of a quadratic in standard form and how to factor completely
* Written out how to find: Vertex, Axis of Symmetry, x-intercepts, and y-intercept
* Must have a table of values (minimum 4 points)
* and a graph for each example

Tab 2: Solve Quadratics using the Square Root Property, include the following:

* Two examples of a quadratic in vertex form solved for the x-intercepts by using the square root property.

Tab 3: Solve Quadratics using the Quadratic Formula, include the following:

* What is the Quadratic Formula
* Two examples of how to use the quadratic formula on quadratic equations in standard form
* How to Identify a, b, & c.

Tab 4: Glossary of Vocabulary, include the following:

* All vocabulary used through-out the booklet defined in your **own words.** Use the textbook as a reference!

1. Design your cover for Solving Quadratics with your full name and class period.
2. Each tab needs **two** examples worked out with step by step instructions, use as much learned vocabulary as possible! You may take more than one page per tab to be thorough and correct.
3. Define all relevant terms in your own words.
4. Use graph paper for graphs. This should look neat and nice.
5. Below are a few of many resources available to you for this project

|  |  |
| --- | --- |
| Textbook Page # | Concept |
| Page 479 | How to factor using a generic rectangle |
| Page 491 | Zero Product Property |
| Page 499 | Forms of a Quadratic Function |
| Page 521 | Quadratic Formula |
| Page 507 | Learned Vocabulary |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_

**Attach to your finished project:**

# Rubric:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Learning Target | A (10pts) | B (8pts) | C (7pts) | I (0pts) |
| Tab 1: Graphing and Solving by Factoring | Two examples of each that are clear and make sense. Examples lead to correct solutions. | Example(s) are there but may have minor errors | Example(s) have errors or are some may be missing. | Missing, incoherent or incomplete |
| Tab 2: Solving by Square Root Property | Two examples of each that are clear and make sense. Examples clearly lead to correct solutions. | Example(s) are there but may have minor errors or may not be easy to follow to all solutions | Example(s) have errors or are some may be missing. Only one case shown is correct. | Missing, incoherent or incomplete |
| Tab 3: Solve Quadratics using Quadratic Formula | Two examples of each that are clear and make sense. Examples clearly lead to correct solutions. | Examples are there but may have minor errors or may not be easy to follow to all solutions | Examples have errors or are some may be missing. Only one case shown is correct. | Missing, incoherent or incomplete |
| Tab 4: Glossary | Full use of vocab in own words and correct. | Vocab is present but may have minor errors or some is copied from text. | Most of the vocab is used but some are copied from text. | Missing, incoherent or incomplete |
| Presentation | Neat, clear and easy to read. Uses grid/graph paper appropriately for graphs. Color is used to enhance the meaning. | Legible and graphs make sense. Uses color but may be hard to read. | Legible, but with little thought to readability. No color or color hurts the legibility. | Illegible, messy, no thought to presentation, or appears slapped together. Graphs sketched without care or incorrectly. |

Total:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_