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Vision and Scope Document

1. **Problem Statement**

a. Project Background

- Algebraic expressions can be difficult to solve without the help of a calculator, we intend to introduce and calculator that can help ease the process of solving algebraic expressions.

b. Stakeholders

- Professor Khan, wants the calculator to solve algebraic expression with up to many variables.

c. Users

- The users for this calculator are students, professors or anyone trying to solve an algebraic expression that needs assistance from a calculator.

d. Risks

- Potential drawbacks for our project are: sickness, scheduling conflicts and code merger.

e. Assumptions

- Our assumption for resources is that Microsoft Visual Studio will always be accessible since it’s a free download.

1. **Vision of the Solution**

a. Vision Statement

- To create a calculator to help students, professors and any one attempting to solve an algebraic expression with more ease

b. List of Features

- Compute adding, subtracting, dividing, multiplication

- Compute square roots and exponential expressions

- Computer area, volume

- Compute log and trigonometric expressions

- Compute problems with many variables

- Allow functions to have polymorphism

- All output goes to the command line

- Prompt user for algebraic expressions, through a menu system

1. **Use Case**
2. Display all the features of the calculator on the command line.
3. Allow the user to perform mathematical operations from user input.
4. Or select the mathematical function needed from one of the displayed options.
5. After the expression or function is entered or chosen, the user will input their variables/values then press enter to receive the answer.
6. **Phases**
7. Phase 1: Adding and subtracting two variables.
8. Phase 2: Multiplication and Division.
9. Phase 3: Order of operations with more than two variables.
10. Phase 4: Mean, median, mode and range.
11. Phase 5: Area and Volume.