1. The game will consist of hardware requirements for what machines can run it.
    1.1. Keyboard and mouse will be required.
    1.2. The game will export to Windows as an executable file.
    1.3. The game will output to a display with a minimum resolution of 800x600
2. The game will have a series of menus that navigate through the game screens.
    2.1. The game will have a main menu screen.
        2.1.1. The user will automatically load into the main menu when the game is launched.
        2.1.2. The user will be able to choose between playing the game, changing the settings or quitting the application.
        2.1.3. When the user plays the game they will be required to choose what math topic to practice.
    2.2. A Graphical User Interface (GUI) will exist to display options within the game to the user.
        2.2.1. The GUI will allow the selection of one mathematical topic, from a list of mathematical topics, based on their grade level.
        2.2.2. The GUI will allow scrolling to see different areas of the level.
    2.3. The game will have a settings menu.
        2.3.1. The settings menu will allow adjustment of SFX and music volume.
3. There will be an educational aspect to the game that is focused on mathematics.
    3.1. Each level will begin with a mathematics quiz which contains questions based off of the selected mathematical topic.
        3.1.1. Equations will be used for each quiz question that tests user's on mathematical topics in the 4th grade to 8th grade range, according to the Massachusetts Mathematics Curriculum Framework.
        3.1.2. Questions will be chosen randomly at runtime from a database of equations, depending on the chosen topic.
        3.1.3. Points will be awarded for each correctly solved question, with difficult questions granting more points.
        3.1.4. An incorrect solution to a question will deduct points.
        3.1.5. The quiz will feature an input parsing mechanism.
            3.1.5.1. Answers to quiz questions will be parsed in such a way as to avoid correct answers being marked incorrect (i.e. inputting "3.5" instead of "3.50" will not be counted as an incorrect answer).
4. A series of gameplay features will exist that assemble to create a two-dimensional platformer.
    4.1. Platforms will exist in each level that create a path through the level.
    4.2. Each level will contain a user controlled entity known as the character.
        4.2.1. The character will have the ability to perform a series of movement options.
            4.2.1.1. The character will be able to move left, right, and can jump.
            4.2.1.2. The character will be able to wall slide.
                4.2.1.2.1. Wall Sliding will occur when the character is airborne after a jump and comes in contact with a platform wall.

4.2.1.2.2. The character enters a wall jump state when airborne and pushing into a wall

4.2.1.2.2.1. Wall jumping will occur when the character jumps while in a wall slide state.

4.2.1.3. The character will be able to crouch to make the hitbox half size.

4.2.1.4. All movements by the character will be animated.

4.2.2. The character will have the ability to melee attack, dealing damage to enemies within a short range.

4.2.2.1. Melee attacks will be able to be directed up, down, left and right.

4.2.3. The character will spawn with a certain amount of lives.

4.2.3.1. The character will be able to die in a level.

4.2.3.1.1. Death will occur through contact with threats on a level.

4.2.3.1.2. Death in a level will decrease the life count by one.

4.2.3.1.2.1. When the character dies with zero lives remaining, the game will return to the main menu.

4.2.3.1.2.2. When the character dies with more than zero lives remaining, the game will return the character to the beginning of the same level.

4.2.3.2. Lives will carry over between each completed level.

4.3. A goal will exist in each level to signify that the character has completed the level.

4.3.1. Some levels will have secret alternative goals that can be found through exploration.

4.4. Threats will exist in each level that will deal damage to the character when their hitboxes collide.

4.4.1. Threats will exist in each level of the game.

4.4.1.1. Enemy threats will be a type of threat that are able to move and attack.

4.4.1.1.1. There will be various types of enemies that each behave differently.

4.4.1.1.2. Enemies will change their behavior when in the presence of the character.

4.4.1.2. Environmental threats will exist in each level of the game.

4.4.1.2.1. Environmental threats will be able to be static.

4.4.1.2.2. Environmental threats that move will consistently follow a pre-determined path.

4.5. Assists will be able to be placed on the level by the user.

4.5.1. Assists will consist of springs, teleporters, extra platforms, power-ups, etc..

4.6. A point system will exist that contains a count of the number of points owned by the user.

4.6.1. Points will be awarded on equation completion.

4.7. A shop will be available to the user to spend points on assists and extra lives.