

# **MathsBuddy | Math Solver AI – Multi-Page Notes**

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## **Page 1 – Concept**

### **1. Concept**

- **Purpose:** AI-powered platform to solve math problems step by step.
  - **Target Users:** Students (Class 6-12), educators, self-learners.
  - **USP:**
    - Instant solutions with explanations.
    - Graphical & interactive visualizations.
    - Step-by-step solutions.
    - Free and premium features.
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## **Page 2 – Features**

### **2. Features**

#### **2.1 Math Problem Solver**

- Algebra, Calculus, Geometry, Trigonometry, Statistics.
- Step-by-step solutions for equations, derivatives, integrals, word problems.

#### **2.2 Interactive Graphs / 3D Visualization**

- Pie charts, functions, parametric equations.
- Mouse hover interactivity (scale, rotate).

- Modern glass/neon effects.

## 2.3 AI Chat Assistant

- Natural language Q&A.
- Explains concepts & formulas.
- Suggests exercises based on performance.

## 2.4 Practice & Quizzes

- Random problem generator.
- Track progress & leaderboard.
- Gamification: points, achievements.

## 2.5 User Account & Premium Features

- Free tier: limited AI & problem-solving.
  - Premium tier: unlimited solving, detailed explanations, interactive 3D features.
  - Rewards/giveaways for engagement.
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# Page 3 – Tech Stack

## 3. Tech Stack

- **Frontend:** Next.js (SPA), React, Tailwind CSS, GSAP, Three.js, ShadCN/UI.
  - **Backend:** Node.js + Express, MongoDB, OpenAI API integration.
  - **Payments:** Razorpay for premium subscriptions.
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# Page 4 – Single-Page Platform Structure

## 4. Single-Page Platform Structure

1. Hero / Intro – 3D interactive element, CTA button.
  2. Math Solver – Input box, problem type dropdown, step-by-step output.
  3. Interactive Graphs – 3D graphs, smooth animations.
  4. Practice / Quiz – Random problems, leaderboard, gamification.
  5. Premium / AI Assistant – AI chat, subscription promo.
  6. About / Footer – Branding, social links, contact info.
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## **Page 5 – Advantages of SPA**

### **5. Advantages of SPA**

- Fast, smooth user experience.
  - Easy integration of 3D and AI components.
  - All features accessible in one scroll.
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## **Page 6 – MVP for SPA**

### **6. MVP for SPA**

- Hero + solver section functional.
  - Step-by-step solutions.
  - One interactive 3D visualization.
  - Optional: basic AI assistant.
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## **Page 7 – Logo / Branding Ideas**

### **7. Logo / Branding Ideas**

- Short & memorable: MB or MathsBuddy.
- Modern, clean, techy feel.
- Optional: animated logo.