A Simple Guide to the TI-92 Graphing Calculator

For Beginners

1 Introduction

The TI-92 is a powerful graphing calculator with built-in programs for math, graphing, and more. This guide covers basic navigation, a sample program, and an example of 3D graphing to get started.

2 Navigating Programs

The TI-92 organizes functions into apps (like Home, Graph, etc.). Use the **APPS** key to access them.

2.1 Key Navigation

- **APPS**: Opens the Apps desktop.
- Arrow keys: Navigate menus and lists.
- **ENTER**: Selects an item.
- **2nd** + **F1**–**F8**: Accesses secondary functions (e.g., **2nd** + **F1** = QUIT).
- **ALPHA**: Types letters for variables/names.
- **CLEAR**: Clears the screen or cancels.
- + (or -): Scrolls up/down in lists.

2.2 Main Apps

App	Description
Home	Basic calculations and programming.
Graph	Plot functions and analyze graphs.
Data/Matrix	Work with lists, matrices, and stats.
Symbolic	Exact symbolic math (solve, factor).
Spreadsheet	Data entry and formulas.

2.3 Accessing Programs

1. Press **APPS**.
2. Use arrows to select an app (e.g., Home).
3. Press **ENTER**.
4. In Home, press **F3** (PROGRAMS) for user programs.
5. Select **New** to create, or existing to run.

2.4 Running a Program

- In PROGRAMS menu: Arrows to program name.
- Press **ENTER** to execute.
- Input prompts appear; type values and press **ENTER**.

3 Sample Program: Hello Looper

This program accepts a name and a number, then loops to display "Hello, [name]!" that many times. Save it in Home > PROGRAMS > New.

```
:Prgm
:Input "Enter your name: ",name
:Input "Enter loop times: ",times
:For i,1,times
:Disp "Hello, "&name&"!"
:EndFor
:EndPrgm
```

Listing 1: Hello Looper Program

3.1 How to Use the Sample

1. Create: In PROGRAMS, name it "HELLOOP".
2. Run: Select HELLOOP and press **ENTER**.
3. Enter name and number when prompted.
4. View the looped greetings on screen.

3.2 Tips for Youth

- Experiment: Change the message or add pauses.
- Errors? Press **CLEAR** and retry.
- Save often: Programs are stored in memory.

4 Using the 3D Graphing Function

The TI-92 can plot 3D graphs in the Graph app. Below is an example using the equation $z = \sin(\sqrt{x^2 + y^2})$ to create a ripple-like surface.

4.1 Steps to Graph in 3D

1. Press **APPS**, select **Graph**, press **ENTER**.
2. Press **F1** (Y= editor), select **3D**.
3. Enter the equation: $z1 = \sin(\sqrt{x^2 + y^2})$.
4. Press **F2** (WINDOW) to set ranges:
   - x: [-5, 5], y: [-5, 5], z: [-2, 2].
   - Grid: 20 for x and y.
5. Press **F5** (GRAPH) to plot.
6. Use arrow keys to rotate, + or **-** to zoom.