TEXAS INSTRUMENTS

TI-73 / TI-83 Plus Number Curiosities

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What is the Number Curiosities Application?

This application illustrates and animates interesting and fun facts about numbers from 0 through 25. The application was inspired, in part, by the book, *Numbers: Facts, Figures, and Fiction*, by Richard Phillips.

The Number Curiosities application introduces students to four types of information about numbers from 0-25:

- Whether the numbers are prime or composite, and how they are factored

- Geometric facts

- Number sentences

- Real world facts

The Number Curiosities application is a concept application that TI wants to share with our customers, educators, and students before the product definition and testing are complete. It is an alpha software version, and as such, it may contain imperfections, or the coding may be incomplete.

TI invites your feedback concerning the functionality and educational value of the Number Curiosities application. Please send your comments and questions to concept@list.ti.com.

What You Need

Note | In this user guide, any information that pertains to the TI-83 Plus also pertains to the TI-83 Plus Silver Edition, unless otherwise noted.

Hardware and software	Notes
TI-73 with version 1.50 or higher of the Graph Explorer software —or— TI-83 Plus or TI-83 Plus Silver Edition with version 1.13 or higher of the operating system software	You can download a free copy of the latest Graph Explorer or operating system software from education.ti.com/softwareupdates. Follow the link to Operating Systems.
Computer with Windows® 95/98/2000/XP, Windows NT®, or Apple® Mac® OS 7.1 or higher installed	
TI-GRAPH LINK™ computer-to-calculator cable	If you do not have this cable, call your distributor, or order the cable from TI's online store.
TI-GRAPH LINK software that is compatible with the TI-73 or the TI-83 Plus —or— TI™ Connect software (available at the end of 2001). TI Connect works with all supported models of TI graphing calculators.	You can download free copies of TI-GRAPH LINK and TI Connect from education.ti.com/softwareupdates. Follow the link to Connectivity Software.

Where to Find Installation Instructions

Detailed instructions on installing this and other applications are available at education.ti.com/guides. Follow the link to Flash installation instructions.

Getting Help

The instructions in this guidebook are only for this application. If you need help using the TI-73 or TI-83 Plus, refer to its comprehensive guidebook at education.ti.com/guides.

Starting and Quitting the Application

Starting the Application

1. Press APPS to display the list of applications on your calculator.

2. Select **NumCurio**. The application's information screen is displayed.

3. Press any key to continue. The acknowledgement screen is displayed.

4. Press any key to continue. The developer's screen is displayed.

5. Press any key to continue. The application's main screen is displayed.
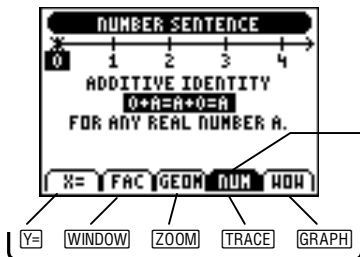
Note | The first time you run the application, 0 is highlighted and its factorization information is displayed. When you run the application subsequent times, the last number and fact you viewed is displayed.

Quitting the Application

To quit the application, press 2nd [QUIT].

Navigating

- To move the cursor to a number on the number line, use the arrow keys ($\boxed{\triangleleft}$ and $\boxed{\triangleright}$) or the **X=** option.

- To select an option to display information about the number, press the graphing key directly below the option.

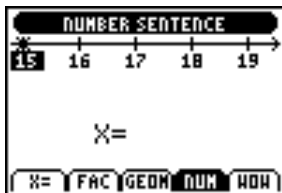Press a graphing key to select one of these options. For example, press $\boxed{\text{TRACE}}$ to select NUM.

- If you press $\boxed{\triangleright}$ while the cursor is on 25, a message is displayed that encourages you to search for other number facts. Press any key to move the cursor to 0.

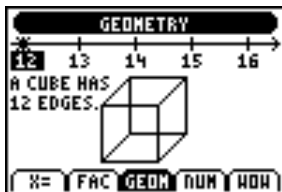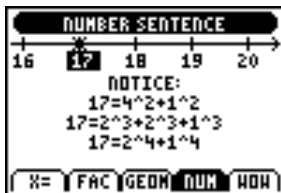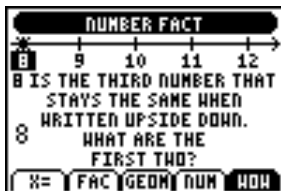| Option	Description
	X= allows you to move the cursor quickly to another number. Select **X=**, and then enter a number. If the number has one digit, press [ENTER] to move the cursor to the number. If the number has two digits, the cursor automatically moves to the number after you enter the second digit. The same type of information (**FAC**, **GEOM**, **NUM**, **WOW**) that was displayed for the previous number is displayed for the new number.
	FAC displays the factorization of the number and whether the number is prime or composite. A prime number is a whole number greater than 1 that has exactly two factors, itself and 1. A composite number is a whole number that has more than two whole-number factors.
	GEOM displays a geometric fact about the number.

Option	Description
NUMBER SENTENCE 16 **17** 18 19 20 NOTICE: $17=4^2+1^2$ $17=2^3+2^3+1^3$ $17=2^4+1^4$ X= FAC GEOM **NUM** WOW	**NUM** displays one or more number sentences about the number.
NUMBER FACT **8** 9 10 11 12 8 IS THE THIRD NUMBER THAT STAYS THE SAME WHEN WRITTEN UPSIDE DOWN. WHAT ARE THE FIRST TWO? 8 X= FAC GEOM NUM **WOW**	**WOW** displays a real-world fact about the number.

Deleting the Application from Your Calculator

TI-73

1. Press [2nd] [MEM] to display the MEMORY menu.

2. Select **Delete**.

3. Select **Apps**.

4. Move the cursor to **NumCurio**.

5. Press [ENTER]. A confirmation message is displayed.

6. Select **Yes** to delete the application.

TI-83 Plus

1. Press [2nd] [MEM] to display the MEMORY menu.

2. Select **Mem Mgmt/Del**.

3. Select **Apps**.

4. Move the cursor to **NumCurio**.

5. Press [DEL]. A confirmation message is displayed.

6. Select **Yes** to delete the application.

Installation Error Messages

Low Battery

Do not attempt to download a Flash application if the low-battery message appears on the home screen. Low battery indication is shown on the initial screen. If you receive this error during an installation, change the batteries before trying again.

Invalid Signature or Certificate

Either this calculator does not have a certificate to run the application, or electrical interference caused a link to fail. Try to install the application again.

Error in Xmit

This problem is usually associated with the unit-to-unit cable and its connection between the calculators. Make sure the cable is firmly inserted in the link port of each calculator.

Link Transmission Error

This error indicates that the TI-GRAPH LINK™ software or TI™ Connect software is unable to communicate with the calculator. The problem is usually associated with the TI-GRAPH LINK cable and its connection to the calculator or to the computer.

- Make sure the cable is firmly inserted in the calculator link port and the computer.

- Verify that the correct cable type is selected in the software link settings.

- Verify that the correct communications port (Com Port) is selected in the software link settings.

If this does not correct the problem, try a different TI-GRAPH LINK cable and reboot your computer.

Archive Full

This error occurs when the TI-83 Plus does not have sufficient memory for the application. In order to make room for another application, you must delete an application or archived variables from the TI-83 Plus. Before you delete an application from the TI-83 Plus, you can save it on your computer using TI-GRAPH LINK™ software for the TI-83 Plus or TI™ Connect software. You can reload it to the TI-83 Plus later using TI-GRAPH LINK software or TI Connect software.

Memory Error

This error occurs when the TI-73 does not have sufficient memory for the application. In order to make room for another application, you must delete an application from the TI-73. Before you delete an application from the TI-73, you can save it on your computer using TI-GRAPH LINK software for the TI-73 or TI Connect software. You can reload it to the TI-73 later using TI-GRAPH LINK software or TI Connect software.

Other Errors

See Appendix B in the TI-73 manual or pages B-6 through B-10 in the TI-83 Plus manual for information about the specific error.

Checking Version Numbers and Free Space

Verify Operating System Version and ID Number

The Number Curiosities application is compatible with TI-73 Graph Explorer software version 1.50 and higher or the TI-83 Plus operating system 1.13 and higher.

To verify your operating system version number:

1. From the home screen, press [2nd] [MEM].

2. Select **ABOUT**.

The operating system version number is displayed below the product name and has the format x.yy. The ID number appears on the line below the product number.

Verify Flash Application Version

1. Press APPS.

2. Select **NumCurio**. The information screen is displayed.

The version number appears on the information screen below the application name.

Check Amount of Flash Application Free Space

TI-73

1. From the home screen, press 2nd [MEM].

2. Select **Check Apps**.

The Number Curiosities application requires one free space to load the application.

For more information about memory and memory management, refer to the TI-73 manual.

TI-83 Plus

1. From the home screen, press [2nd] [MEM].

2. Select **Mem Mgmt/Del**.

The Number Curiosities application requires at least 16,535 bytes of ARC FREE (Flash), or one space, to load the application.

For more information about memory and memory management, refer to the [TI-83 Plus manual](#).

Works Cited

Phillips, Richard. 1994. Numbers: Facts, Figures, Fiction. Cambridge: Cambridge University Press.

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Page Reference

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