

Introduction

The TI-1706 calculator is totally light-powered. There are never any batteries to replace. The solar power cells below the display operate the calculator under any normal reading-light levels, indoors or outdoors.

Caution: Do not carry the calculator in your pants pocket. The display and solar cells are made of glass and may break if you sit on them. Also, do not leave the calculator in direct sunlight for long periods or store it where excessive temperatures are possible.

Turning the Calculator On and Off

The calculator turns on automatically when you expose its solar power cells to a light source. Occasionally, random segments may appear in the display. These segments are cleared when you press [AC].

Note: Be sure all of the solar cell panel is exposed to light. Covering even a portion of the panel may cause the display to go blank.

To turn the calculator off, remove the solar cells from the light by inserting the calculator into its carrying case.

Entering Numbers

You can enter numbers containing up to 8 digits (with a maximum of 7 digits to the right of the decimal).

Clearing the Calculator

To clear the calculator and the memory, press **[AC]**. Note that you should press **[AC]** each time you turn on the calculator.

To clear the calculator without affecting the memory, press **[ON/C]** twice.

Clearing Entry Errors

If you enter an incorrect number, press **[ON/C]** once to clear the display. You can then enter the correct number.

Note: To clear an incorrect number, you must press **[ON/C]** before you press a function key. Pressing **[ON/C]** following a function key clears the calculator.

If you press the wrong arithmetic function key, simply press the correct key and continue with your calculation.

Arithmetic Calculations

The algebraic entry system of the calculator completes all arithmetic operations in the order they are entered.

To display the result of a calculation, press [=]. The calculator is then ready for you to enter a new calculation.

The → symbol in the following examples indicates the result displayed after you press the key sequence that precedes the symbol.

Addition and Subtraction

Example: $7.921 + 1.6 - 12.321 = ?$

7.921[+]1.6[-]12.321[=] → -2.8

Multiplication and Division

Example: $\frac{12 \times 13}{6} = ?$

12[×]13[÷]6[=] → 26.

Calculations with a Constant

The automatic constant register enables you to multiply or divide a series of numbers by a constant, without reentering the constant.

The register is set when you perform the first calculation in a series. When you enter another number and press [=], the calculator completes the problem using the number and function in the constant register.

Multiplication

For multiplication, the constant register uses the **first** number entered (the number in the display when you press the [x] key).

Example: $3 \times 8 = ?$; $3 \times 15 = ?$

$3 [x] 8 [=] \rightarrow 24.$

$15 [=] \rightarrow 45.$

Division

For division, the constant register uses the **second** number entered (the number you enter following the [\div] key).

Example: $27 \div 3 = ?$; $15 \div 3 = ?$

$27 [+]\ 3 [=] \rightarrow 9.$

$15 [=] \rightarrow 5.$

Special Functions

Your calculator also enables you to perform several special functions.

Squaring a Number

To find the square of a number (the number multiplied by itself), press $[x][=]$.

Example: $2.5^2 = ?$

$$2.5[x][=] \rightarrow 6.25$$

Example: $(1.6 \times 2.5)^2 = ?$

$$1.6[x]2.5[x][=] \rightarrow 16.$$

Square Roots

To find the square root of a number, press $[\sqrt{\quad}]$.

Example: $\sqrt{144} = ?$

$$144[\sqrt{\quad}] \rightarrow 12.$$

Example: $\sqrt{16^2 + 33} = ?$

$$16[x][=][+][33][=][\sqrt{\quad}] \rightarrow 17.$$

Reciprocals

To find the reciprocal of a number (the number divided into 1), press $[+][=]$.

Example: $\frac{1}{.25} = ?$

$$.25[+][=] \rightarrow 4.$$

Percentage Calculations

A percentage calculation is completed when you press [=]. You do not need to press [=].

Note: If you do press [=] after [%], the calculator may display incorrect results.

In the add-on and discount examples, notice that two key sequences are shown. The first calculates the result directly and the second displays intermediate percentages.

Percentages: 5% of \$250 = ?

$$250 [\times] 5 [\%] \rightarrow 12.5$$

Add-ons: \$250 plus 5% = ?

$$250 [+] 5 [\%] \rightarrow 262.5$$

or

$$250 [\times] 5 [\%] \rightarrow 12.5 [+] [=] \rightarrow 262.5$$

Discounts: \$250 minus 5% = ?

$$250 [-] 5 [\%] \rightarrow 237.5$$

or

$$250 [\times] 5 [\%] \rightarrow 12.5 [-] [=] \rightarrow 237.5$$

Ratios: \$600 is what percent of \$1,500?

$$600 [+] 1500 [\%] \rightarrow 40.$$

Memory Operations

The **[M +]** key completes any operation (acts like the **[=]** key) and adds the result to memory. The **[M -]** key completes any operation and subtracts the result from memory.

To display (recall) the number in memory, press **[MR]** once. To clear the memory, press **[MC]**.

Because **[M +]** and **[M -]** add to or subtract from the current contents of the memory, press **[MC]** or **[AC]** before you begin a problem that uses the memory.

Note that the letter "M" appears in the upper left corner of the display when the memory contains a number other than zero.

Example: $(4 \times 11.99) + (12 \times 0.98) = ?$

[AC] 4 [×] 11.99 [M +] 12 [×] .98 [M +] [MR]
→ 59.72

Example: $\frac{1.98}{4} - \frac{4.98}{8} = ?$

[AC] 1.98 [+] 4 [M +] 4.98 [+] 8 [M -] [MR]
→ -0.1275

Example: $\frac{7.9 + 8.1}{-(5.2 + 2.8)} = ?$

[AC] 5.2 [+] 2.8 [M -] 7.9 [+] 8.1 [+] [MR] [=]
→ -2.

Error/Overflow Conditions

An error/overflow condition is indicated by the letter "E" in the lower left corner of the display. Press **[ON/C]** once to clear the condition and twice to clear the calculator, or press **[AC]** to clear the calculator and memory.

An error/overflow occurs for any of the following reasons.

1. The result of a calculation has more than 8 digits to the left of the decimal point. Up to 8 of the most significant digits of the result are displayed, with the decimal point appearing 8 places to the left of its correct position. To determine the correct position of the decimal point, mentally move it 8 places to the right, adding zeros as required.
2. The result in memory has more than 8 digits to the left of the decimal point. If you press **[ON/C]**, the memory retains the number stored prior to the overflow.
3. You attempted to divide a number by zero.
4. You attempted to find the square root of a negative number. Although this causes an error condition, the square root is displayed as if the number had been a positive number.

In Case of Difficulty

If you have difficulty operating the calculator, use the following procedures.

1. Be sure all of the solar cell panel to the right of the display is exposed to light.
2. Press **[ON/C]** **[ON/C]** or **[AC]** to clear the calculator. Then repeat your calculation.
3. Review the instructions in this manual to be sure that your calculations were entered correctly.

If the difficulty continues, write or call the Consumer Relations Department to discuss the problem and possible solutions. You can write to:

Texas Instruments Incorporated
P.O. Box 53
Lubbock, Texas 79408

or call toll free at (800) 842-2737 within the United States. From outside the United States, call (806) 741-4800. (We regret that we cannot accept collect calls at this number.)

Returning your Calculator for Service

If you need to return your calculator for service, send the calculator prepaid to the appropriate TI Customer Service Facility listed on page 11. The shipment should be carefully packaged and adequately protected against shock and rough handling. For your protection, the calculator should be sent insured. Texas Instruments cannot assume any responsibility for loss or damage to an uninsured shipment.

Please include information concerning the difficulty experienced with the calculator, and be sure to include your return address—name, address, city, state, and zip code.

In-warranty units will be repaired or replaced under the terms of the Limited Warranty. Out-of-warranty units will be repaired or replaced with reconditioned units (at TI's option), and service rates in effect at the time of return will be charged. Because our service facilities serve the entire United States, it is not feasible to hold units while providing service estimates. For advance information concerning our service charges, please call Consumer Relations at the telephone numbers listed on page 9.

TI Customer Service Facilities

U.S. Residents

For United States parcel post shipments:

Texas Instruments Incorporated
P.O. Box 2500
Lubbock, Texas 79408

For other postal carriers:

Texas Instruments Incorporated
2305 N. University
Lubbock, Texas 79415

Customers in California and Oregon may contact the following Texas Instruments offices for additional assistance or information.

Texas Instruments Customer Service Center
19505 Hamilton Street
Building A, Suite 1
Torrance, California 90502
(213) 217-7095

Texas Instruments Customer Service Center
6700 Southwest 105th
Kristin Square, Suite 110
Beaverton, Oregon 97005
(503) 643-6758

Canadian Residents only

Geophysical Services Incorporated
41 Shelley Road
Richmond Hill, Ontario, Canada L4C 5G4

Local Customer Service Centers

If your calculator needs service, you can exchange it for a factory-reconditioned calculator of the same model (or equivalent model specified by TI) by taking or mailing the calculator to one of the Customer Service Centers located throughout the United States. In-warranty units will be exchanged under the terms of the Limited Warranty. Out-of-warranty exchanges will be charged at the rates in effect at the time of the exchange.

Note: A small handling fee will be charged after 90 days from the date of purchase. If you mail the calculator, a mail-in service fee will also be charged.

Look for Customer Service Center under Texas Instruments Incorporated in the white pages of your telephone directory or look under one of the following two headings in the yellow pages: "Calculating & Adding Machines & Supplies" or "Computers—Service & Repair."

You can also call or write Consumer Relations for further details and the location of the nearest Customer Service Center. (The Consumer Relations telephone numbers and address are listed on page 9.) Please call the service center to check the availability of your model.

One-Year Limited Warranty

This Texas Instruments electronic calculator warranty extends to the original consumer purchaser of the product.

Warranty Duration: This calculator is warranted to the original consumer purchaser for a period of one (1) year from the original purchase date.

Warranty Coverage: This calculator is warranted against defective materials or workmanship. **This warranty is void if the product has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in material or workmanship.**

Warranty Disclaimers: Any implied warranties arising out of this sale, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the above one year period. Texas Instruments shall not be liable for loss of use of the calculator or other incidental or consequential costs, expenses, or damages incurred by the consumer or any other user.

Some states do not allow the exclusion or limitations of implied warranties or consequential damages, so the above limitations or exclusions may not apply to you.

Legal Remedies: This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

Warranty Performance: During the above one (1) year warranty period, your TI calculator will either be repaired or replaced with a reconditioned comparable model (at TI's option) when the product is returned, postage prepaid, to one of the Texas Instruments Service Facilities listed on page 11. The repaired or replacement calculator will continue the warranty of the original unit or six months, whichever is longer. Other than the postage requirement, no charge will be made for such repair or replacement of in-warranty calculators. Out-of-warranty calculators will be charged at the rates in effect at the time the unit is received. Texas Instruments strongly recommends that you insure the product for value, prior to mailing.



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