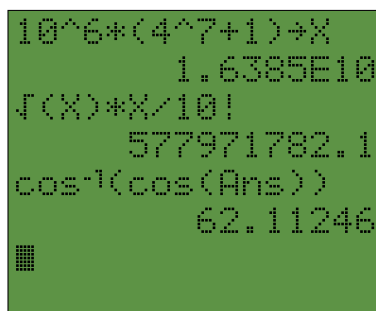


# TI calculator screen (and buttons)

TI-82 STATS, TI-84

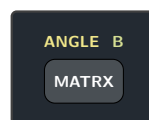
Mustafa Ibrahim, Caleb Bibb

2022-06-28

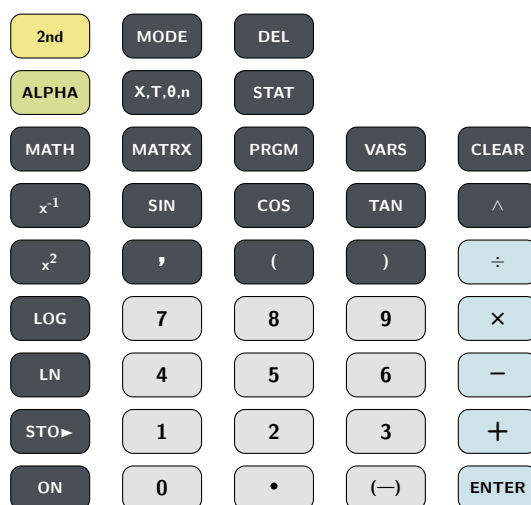


TI-82 STATS calculator screen showing a sequence of calculations:

- $10^6 \cdot (4^7 + 1) \cdot X$
- $1.6385E10$
- $\sqrt{X} \cdot X / 10!$
- $577971782.1$
- $\cos^{-1}(\cos(\text{Ans}))$
- $62.11246$



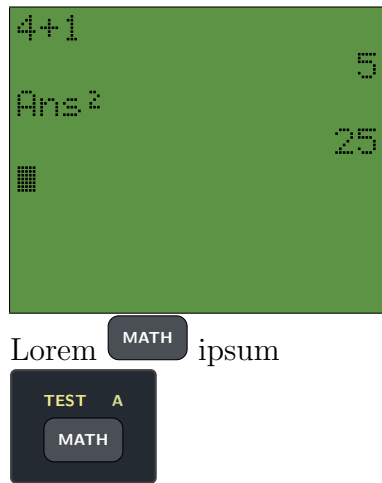
Calculator button labeled **ANGLE B** and **MATRX**.



# Contents

<b>1</b>	<b>Quickstart</b>	<b>3</b>
<b>2</b>	<b>Package option(s)</b>	<b>3</b>
2.1	Color . . . . .	3
2.2	Defined colors . . . . .	3
<b>I</b>	<b>Screen</b>	<b>4</b>
<b>3</b>	<b>LCD size</b>	<b>4</b>
<b>4</b>	<b>(Re)defined characters</b>	<b>5</b>
<b>II</b>	<b>Buttons</b>	<b>6</b>
<b>5</b>	<b>Usage</b>	<b>6</b>
<b>6</b>	<b>Defined buttons</b>	<b>6</b>
<b>7</b>	<b>Custom buttons</b>	<b>9</b>

# 1 Quickstart



Lorem MATH ipsum  
TEST A  
MATH

Source

```

1 %\usepackage[color]{tiscreeen}
2
3 \tiscreeen
4 |4+1          |
5 |             5|
6 |Ans{sq}      |
7 |             25|
8 |{fcur}       |
9 |             |
10 |             |
11 |             |
12
13 Lorem \tibtnmath{} ipsum
14
15 \tibtnextramath

```

## 2 Package option(s)

### 2.1 Color

Using the `color` option will change the colors used by the `\LCD` command for printing the screen using `\tiscreeen`. The colors are defined as `tiscreeenfg` (foreground, i.e. font color) and `tiscreeenbg` (background) and redefined like this:

```

1 % Add this to your preamble
2 \definecolor{tiscreeenbg}{HTML}{5d9345}
3 \definecolor{tiscreeenfg}{HTML}{FFFFFF}

```

Source

### 2.2 Defined colors

Name	Color	Usage
tiscreeenfg	000000	LCD commands
tiscreeenbg	5d9345	LCD commands
tibtngray	494F54	Buttons
tibtnyellow	F1E78B	Buttons
tibtngreen	D5DE93	Buttons
tibtnwhite	E2E2E2	Buttons
tibtnblue	CDE2E9	Buttons
tibtncaseblack	232A32	Buttons

## Part I

# Screen

### 3 LCD size

The default LCD size is  $8 \times 16$  (the size of the TI-82 STATS). It can be changed by redefining the variables used to determine the size of the display or by using the original \LCD command.

Source

```
1 % First method (For entire document)
2 \def\tiscreenX{16}
3 \def\tiscreenY{8}
4
5 % Second method (Only once)
6 \LCD{5}{11}
7 |ANOTHER |
8 |EXAMPLE |
9 |WITH A |
10 |DIFFERENT|
11 |SIZE |
```

## 4 (Re)defined characters

Added characters

Name	Symbol	\LCD Code
$E$	$\mathbb{E}$	{sciE}
$\sigma$	$\mathbb{O}$	{sigma}
$\Sigma$	$\mathbb{Z}$	{Sigma}
$x^2$	$\mathbb{Z}$	{sq}
$x^{-1}$	$\mathbb{I}$	{ar}
$x^3$	$\mathbb{Z}$	{c3}
$y^x$	$\mathbb{X}$	{cx}
$x_1$	$\mathbb{I}$	{sub1}
$x_2$	$\mathbb{Z}$	{sub2}
$x_3$	$\mathbb{Z}$	{sub3}
$x_4$	$\mathbb{H}$	{sub4}
$x_5$	$\mathbb{S}$	{sub5}
$x_6$	$\mathbb{G}$	{sub6}
$x_{10}$	$\mathbb{W}$	{sub10}
$\bar{x}$	$\mathbb{X}$	{barx}
$\bar{y}$	$\mathbb{Y}$	{bary}
$-x$	$\mathbb{I}$	{dash}
$\rightarrow$	$\mathbb{D}$	{sto}
$\theta$	$\mathbb{O}$	{theta}
$\pi$	$\mathbb{P}$	{pi}
$\eta$	$\mathbb{O}$	{eta}
$+$	$\mathbb{D}$	{tick}
$^\circ$	$\mathbb{O}$	{degree}
	$\mathbb{H}$	{square}
	$\mathbb{A}$	{alpha}
$\uparrow$	$\mathbb{A}$	{2nd}
$\geq$	$\mathbb{Y}$	{geq}
$\leq$	$\mathbb{X}$	{leq}
$\neq$	$\mathbb{H}$	{neq}
$x^3$	$\mathbb{Z}$	{c3}
$A^T$	$\mathbb{T}$	{transpose}
$A^r$	$\mathbb{P}$	{upr}
$\chi$	$\mathbb{X}$	{chi}
$\triangleright$	$\mathbb{H}$	{fwedge}
$\triangleleft$	$\mathbb{H}$	{bwedge}
$\mathbf{N}$	$\mathbb{N}$	{bbN}
$/$	$\mathbb{I}$	{bb/}



## Redefined characters

!	!	{!}
{	{	{lb}
}	}	{rb}
[	[	{[}
]	]	{]}
$\sqrt{x}$	$\sqrt{x}$	{sqrt}
e	e	{e}
i	i	{i}
v	v	{v}
w	w	{w}
Ellipses	...	{ell}
Apostrophe	'	{'}
List	L	{L}
Underscore	_	{-}


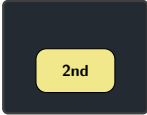

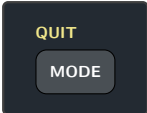



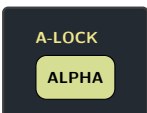
## Part II

# Buttons

## 5 Usage

The `\tibtn...` commands only prints the button and are useful when displaying buttons inline. The `\tibtnextra...` commands shows the extra functionality of the button (accessed by the  and  buttons). See section 6 for defined buttons and section 7 for how to define custom buttons.

## 6 Defined buttons

<code>\tibtnsecond</code>			<code>\tibtnextrasecond</code>
<code>\tibtnmode</code>			<code>\tibtnextramode</code>
<code>\tibtnDEL</code>			<code>\tibtnextradel</code>
<code>\tibtnALPHA</code>			<code>\tibtnextraalpha</code>

<code>\tibtnxton</code>			<code>\tibtnextraxton</code>
<code>\tibtnstat</code>			<code>\tibtnextrastat</code>
<code>\tibtnmath</code>			<code>\tibtnextramath</code>
<code>\tibtnmatrix</code>			<code>\tibtnextramatrix</code>
<code>\tibtnprgm</code>			<code>\tibtnextraprgm</code>
<code>\tibtnvars</code>			<code>\tibtnextravars</code>
<code>\tibtnclear</code>			<code>\tibtnextraclear</code>
<code>\tibtnxnone</code>			<code>\tibtnextraxnone</code>
<code>\tibtnsin</code>			<code>\tibtnextrasin</code>
<code>\tibtnacos</code>			<code>\tibtnextracos</code>
<code>\tibtnatan</code>			<code>\tibtnextratan</code>
<code>\tibtnpower</code>			<code>\tibtnextrapower</code>
<code>\tibtnxtwo</code>			<code>\tibtnextraxtwo</code>
<code>\tibtncomma</code>			<code>\tibtnextracomma</code>

<code>\tibtnleftparen</code>			<code>\tibtnextraleftparen</code>
<code>\tibtnrightparen</code>			<code>\tibtnextrarightparen</code>
<code>\tibtnndiv</code>			<code>\tibtnextradiv</code>
<code>\tibtnlog</code>			<code>\tibtnextralog</code>
<code>\tibtnseven</code>			<code>\tibtnextraseven</code>
<code>\tibtneight</code>			<code>\tibtnextraeight</code>
<code>\tibtnnine</code>			<code>\tibtnextranine</code>
<code>\tibtntimes</code>			<code>\tibtnextratimes</code>
<code>\tibtnln</code>			<code>\tibtnextraln</code>
<code>\tibtnfour</code>			<code>\tibtnextrafour</code>
<code>\tibtnfive</code>			<code>\tibtnextrafive</code>
<code>\tibtnsix</code>			<code>\tibtnextrasix</code>
<code>\tibtnminus</code>			<code>\tibtnextraminus</code>
<code>\tibtnsto</code>			<code>\tibtnextrasto</code>



<code>\tibtnone</code>			<code>\tibtnextraone</code>
<code>\tibtntwo</code>			<code>\tibtnextratwo</code>
<code>\tibtnthree</code>			<code>\tibtnextrathree</code>
<code>\tibtnplus</code>			<code>\tibtnextraplus</code>
<code>\tibtnon</code>			<code>\tibtnextraon</code>
<code>\tibtnzero</code>			<code>\tibtnextrazero</code>
<code>\tibtndot</code>			<code>\tibtnextradot</code>
<code>\tibtnneg</code>			<code>\tibtnextraneg</code>
<code>\tibtnenter</code>			<code>\tibtnextraenter</code>

## 7 Custom buttons

Buttons are defined using the `\tibtn` and `\tibtnextra`. It's often convenient to define a `\tibtn` command then use it inside `\tibtnextra` (See example below). See section 2.2 for a list of defined colors.

```
\tibtn[<text color>]{<button color>}{<text>}
```

```
\tibtnextra{<middle>}{<top left>}{<top right>}
```



Source

```

1 \def\tibtnfoo{\tibtn[black]{tibtnblue}{FOO}}
2 \tibtnfoo{}
3
4 \def\tibtnextrafoo{\tibtnextra{\tibtnfoo}{BAR}{BAZ}}
5 \tibtnextrafoo

```