

# MA16010 TI-30Xa Calculator Tips

## Calculator Memory

Your calculator has 3 memories (**M1**, **M2**, and **M3**), each one can store one number.

- To store the displayed number in a memory, press the **STO** key, then either **1**, **2**, or **3**.
- To recall the value that is being stored in a memory, use the recall button **RCL**, then **1**, **2**, or **3** (you do not need to use the **=** key).
- Turning your calculator off and on does not erase the contents of the memories (except in some solar models). To clear the value being stored in a memory, press **0** **STO** followed by **1**, **2**, or **3**. When a value is being stored in memory 2, you will see **M2** in the upper left hand corner of the screen, if this memory is cleared, the **M2** will disappear.

Examples:

★ To store  $4\pi$  in **M1**, use:

4 **×** **π** **=** **STO** 1; you will now have 12.56637061 stored in **M1**.

★ Then, to compute  $(2.5^2 - 1)\sqrt{4\pi}$ , you can use:

2.5 **x<sup>2</sup>** **-** 1 **=** **×** **RCL** 1 **√x** **=** 18.61076543

★ To clear out the value being stored in **M1**, use **0** **STO** 1.

## Decimals, fractions, and mixed numbers

- To enter a fraction or a mixed number into the calculator, use the **a<sup>b/c</sup>** key.
- To toggle between a mixed number and an improper fraction, use **2nd** **a<sup>b/c</sup>** <sup>d/c</sup>.
- To toggle between a decimal and a fraction (or mixed number), use **2nd** **F<sup>↔</sup>D** **←**.  
The calculator cannot convert every decimal to a fraction, and this only works if the denominator is less than 1000.

You do not need to use the **=** key after any of those operations.

Examples:

★ To compute  $\frac{1}{5} + 2\frac{1}{3}$ , you can use: 1 **a<sup>b/c</sup>** 5 **+** 2 **a<sup>b/c</sup>** 1 **a<sup>b/c</sup>** 3 **=**

★ To convert the result  $2\frac{8}{15}$  to an improper fraction, use **2nd** **a<sup>b/c</sup>** <sup>d/c</sup>.

★ To convert the result  $\frac{38}{15}$  to decimal, use **2nd** **F<sup>↔</sup>D** **←**. Using **2nd** **F<sup>↔</sup>D** **←** again will convert it back to a fraction.

## Logarithms

- To find a natural logarithm (base  $e$ ), use the **LN** key. No need to press **=**.  
Likewise, for common logarithms (base 10), use **LOG**.  
The calculator will display an error if you try an illegal operation, like  $\ln(-2)$ , or  $\log 0$ .
  - \* To compute  $\log 89 - \ln 7$  use: **89** **LOG** **-** **7** **LN** **=** 0.003479858

## Exponentials, Powers and Roots

- To compute the exponential  $e^x$ , use **2nd** **LN**. You do not need to use **=**.  
Likewise, to find powers of 10, use **2nd** **LOG**.
  - To raise any base to a power, use the **y<sup>x</sup>** key.  
The calculator will display an error if you try an illegal operation, like  $(-2)^{1/3}$ , or  $0^{-2}$ .
  - To find any root of a number, use **2nd** **y<sup>x</sup>**. You must enter the radicand first.

Note that some powers and roots have a dedicated key:

$$x^2: \text{**x}^2\text{**}, \quad x^3: \text{**2nd** **1**}, \quad \sqrt{x}: \text{**\sqrt{x}}**}, \quad \sqrt[3]{x}: \text{**2nd** **0**}, \quad x^{-1}: \text{**1/x}}**$$

Examples:

- \* To compute  $e^7 - 10^{3.04}$  use: **7** **2nd** **LN** **-** **3.04** **2nd** **LOG** **=** 0.154962285
- \*  $2^8$  is entered using: **2** **y<sup>x</sup>** **8** **=** 256
- \*  $(-3)^5$  is entered as: **3** **+/-** **y<sup>x</sup>** **5** **=** -243 or **(** **-** **3** **)** **y<sup>x</sup>** **5** **=**
- \*  $\sqrt[4]{5}$  is computed using: **5** **2nd** **y<sup>x</sup>** **4** **=** 1.495348781  
or with powers: **5** **y<sup>x</sup>** **(** **1** **÷** **4** **)** **=**, or even as: **5** **y<sup>x</sup>** **4** **1/x** **=**

## Other Hints

- You should only approximate when the directions in LonCapa say to do so. If the problem does not ask you to approximate, then you should enter the exact answer.
- When computing trigonometric function, most of the time you want your calculator set to radians. Press **DRG** until **RAD** appears on the screen. If you turn your calculator off and on, it will reset to **DEG**.
- The factorial function is on top of the **3**: **3<sup>x!</sup>**. To find  $6!=720$ , use: **6** **2nd** **3<sup>x!</sup>**.
- The **←** key allows you to delete the last number digit by digit, without having to reenter all of it again. For example, finding  $249543540 \div 15577$  we made a mistake entering the second number: **249543540** **÷** **11577** **←** **←** **←** **←** **5577** **=** 16020.