



UNIVERSITY OF RICHMOND
Robins School of Business™

TI BA II PLUS CALCULATOR TUTORIAL

FIN 360: PRINCIPLES OF FINANCIAL MANAGEMENT
© JOSEPH FARIZO





BASIC FUNCTIONS

2nd Key
allows for selection of choices above keys

On|Off
with auto-off feature

Backspace
to erase last digit

Time Value of Money (TVM) Functions

Basic Functions

Clear Screen
x1 to clear input
x2 to clear calculation

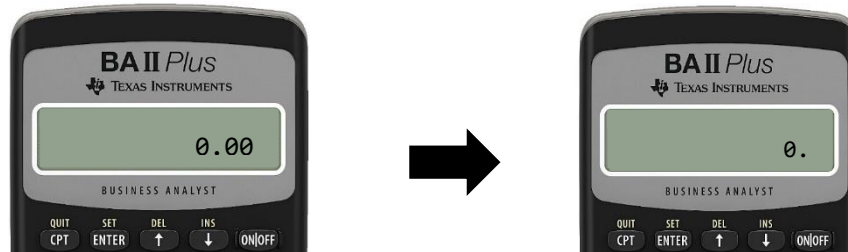
Number Keys
press **+/-** after input to toggle positive/negative

The image shows a TI BA II Plus calculator with several keys highlighted by colored boxes and callouts. The **ON|OFF** key is highlighted in red. The **2ND** key is highlighted in orange. The **→** key is highlighted in yellow. The TVM keys (N, I/Y, PV, PMT, FV) are highlighted in purple. The basic function keys (÷, ×, -, +, =) are highlighted in green. The number keys (0-9, ., +/-) are highlighted in blue. The **CE|C** key is highlighted in red.

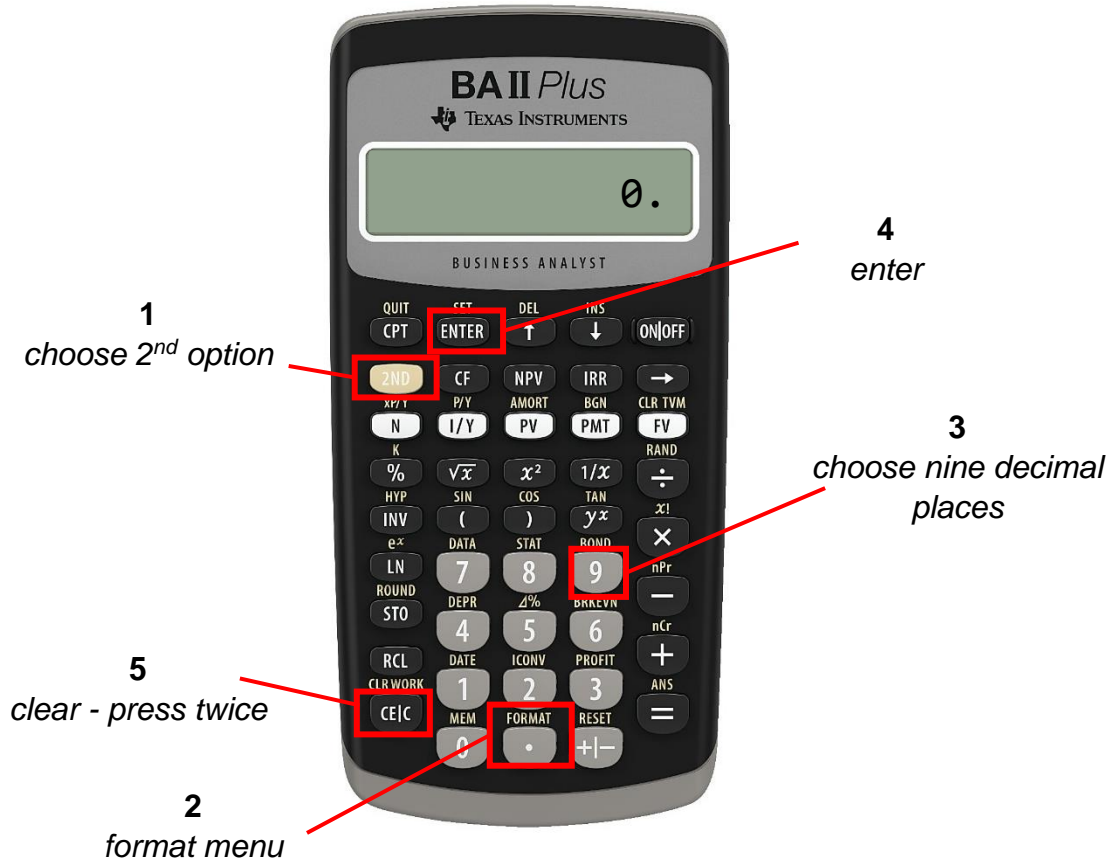
SET UP

If the calculator displays “0.00” or any number of 0s after the decimal, it will round intermediate calculations to however many decimal places are displayed. We’ll reformat the calculator to show *floating* decimal places and display as many digits as the screen allows. This will minimize rounding errors.

Try $9 \div 7$. The calculator will only display **1.29** while the answer is **1.285714...**



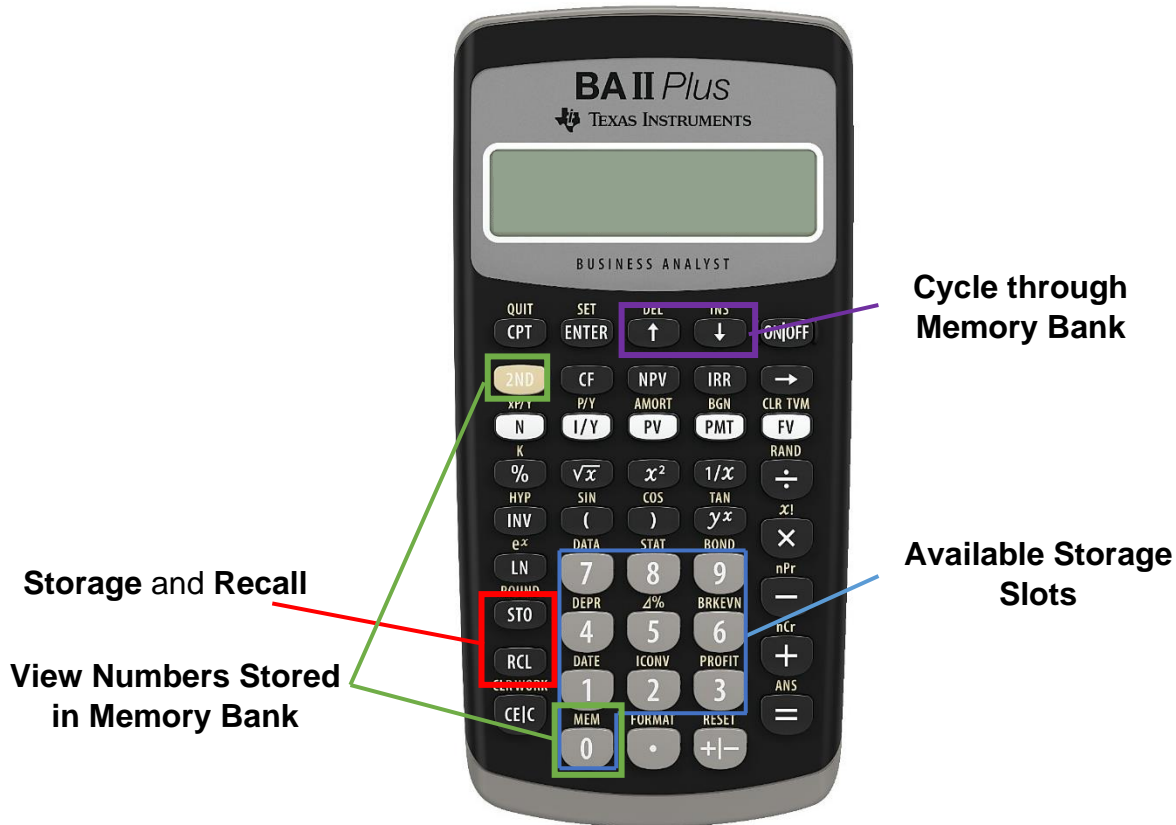
STEPS: With the calculator on, choose the **Format** option, and select “9” as the number of decimal places when prompted by “DEC = ” on the screen. The keystrokes are below.



To reset to factory settings: **2nd RESET ENTER**

MEMORY

You can store up to 10 values on the numerical keys **0** through **9** using the store and recall keys, **STO** and **RCL**. Any number displayed on the screen after a calculation can be stored – it doesn't need to be manually typed in.



EXAMPLE: Storing and Recalling

$$9 \div 7 +/ = -1.285715286 \text{ STO } 1 \text{ CEIC}$$

$$7 \div 9 = 0.777777778 \text{ STO } 2 \text{ CEIC}$$

These two results are now stored in the calculator's memory under the digits 1 and 2. Let's recall those numbers from memory (and then multiply them together).

$$\text{RCL } 1 \times \text{RCL } 2 = -1$$

because $9/_{-7} \times 7/9 = -1$. This can greatly simplify problem solving in multi-step problems and increase precision by not rounding in intermediate steps.

EXAMPLE: Storing and Recalling

You need to compute a firm's cash conversion cycle, which is:

$$CCC = \text{Days in Inventory} + \text{Days in AR} - \text{Days in AP}$$

You do intermediate calculations required in the problem, and find:

$$\text{Days in Inventory} = 142.2545236$$

$$\text{Days in AR} = 29.2458687$$

$$\text{Days in AP} = 84.25887324$$

Rather than having to "retype" all these numbers, *write* the labels **1**, **2**, and **3** in your scratchwork when you compute each component, and store them in available spots in your calculator. Then:

$$\boxed{\text{RCL}} \boxed{1} \boxed{+} \boxed{\text{RCL}} \boxed{2} \boxed{-} \boxed{\text{RCL}} \boxed{3} \boxed{=} \boxed{87.24151906} \boxed{\text{STO}} \boxed{4}$$

EXAMPLE: Reviewing Data in Memory

To view the numbers in your calculator's memory

$$\boxed{2^{\text{nd}}} \boxed{\text{MEM}} \boxed{\text{M0}} = 0. \downarrow \boxed{\text{M1}} = 142.2545236 \downarrow \boxed{\text{M2}} = 29.2458687 \downarrow \boxed{\text{M3}} = 84.25887324$$
$$\downarrow \boxed{\text{M4}} = 87.24151906 \downarrow \boxed{1} = 88.724151906$$

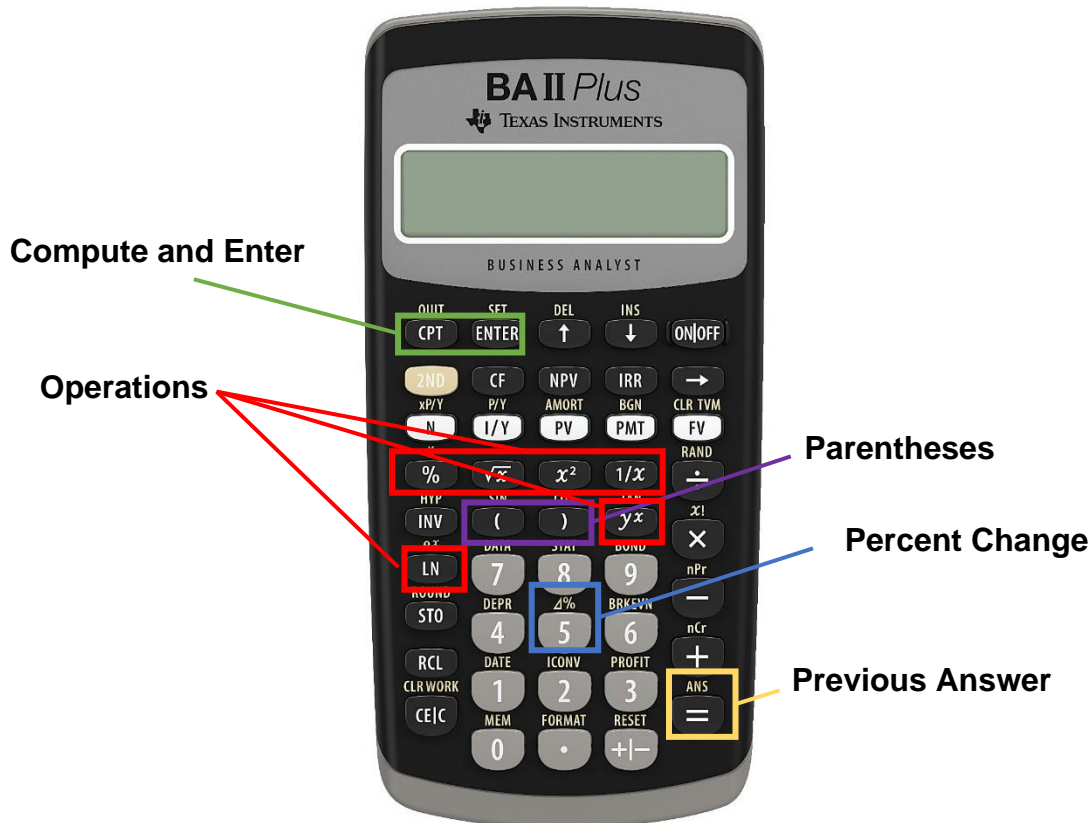
To overwrite what is stored in any memory slot, simply store a new number over an existing one, or press **ENTER** after typing or computing a new number in the memory bank.

EXAMPLE: Clear all Numbers in Memory Bank

$$\boxed{2^{\text{nd}}} \boxed{\text{MEM}} \boxed{2^{\text{nd}}} \boxed{\text{CLR WORK}}$$

BASIC MATH OPERATIONS

There are numerous functions and operations (i.e., SIN, COS, TAN) that we won't necessarily need for the purpose of this course that the calculator. More in-depth information is available in the user guide [available here](#).



EXAMPLES: Using Parentheses

Using parentheses is useful but should be done with caution. While it may help you avoid additional computations or writing multiple steps in your scratchwork, it can be easy to make mistakes. I recommend you practice before attempting more complex multi-step problems.

Example 1: What is $9 + 3/2$? By the order of operations, we first do division then addition, so $9 + 3/2 = 9 + 1.5 = 10.5$.

In the calculator: $9 + (3 \div 2) = 10.5$ ✓

Note: $9 + 3 \div 2 = 6$ ✗

Example 2: Solve the following without writing down any intermediate calculations

$$\left(\frac{1}{\ln(2^{32-34} + \sqrt{3})} \right)^4$$

$$2 \text{ y}^\wedge \left((3 \text{ 2} - 3 \text{ 4}) \right) = + \left((3 \text{ } \sqrt{x}) \right) = \text{LN } 1/x \text{ y}^\wedge 4 = 4.564993912$$

You can verify this computation (and create your own for additional practice) at <https://www.wolframalpha.com>.

EXAMPLES: Percents and Percent Change

Example 1: Last year's sales were \$15,123, and they are expected to grow at 6%. What are they expected to be next year?

$$1 \text{ 5 } 1 \text{ 2 } 3 \times 1 \text{ . } 0 \text{ 6} = 16,030.38$$

Or

$$1 \text{ 5 } 1 \text{ 2 } 3 + 6 \% = 16030.38$$

Example 2: How much are \$14,000 worth of supplies after a 4% discount?

$$1 \text{ 4 } 0 \text{ 0 } 0 \times 0 \text{ . } 9 \text{ 6} = 13,440$$

Or

$$1 \text{ 4 } 0 \text{ 0 } 0 - 4 \% = 13,440$$

Example 3: What is the percent change if a \$15,000 investment grows to (a) \$18,000? What if it grows to (b) \$32,000?

For (a): (New – Old)/Old or $(18000 - 15000) \div 15000 = 0.2 = 20\%$ or
 $2^{\text{nd}} \Delta\% \text{ OLD} = 1 \text{ 5 } 0 \text{ 0 } 0 \text{ ENTER } \downarrow \text{ NEW} = 1 \text{ 8 } 0 \text{ 0 } 0 \text{ ENTER } \downarrow \text{CPT } \%CH = 20$

For (b): $(32000 - 15000) \div 15000 = 1.133333 = 113.333\%$ or
 $2^{\text{nd}} \Delta\% \text{ OLD} = 1 \text{ 5 } 0 \text{ 0 } 0 \text{ ENTER } \downarrow \text{ NEW} = 3 \text{ 2 } 0 \text{ 0 } 0 \text{ ENTER } \downarrow \text{CPT } \%CH = 113.3333.$

EXAMPLES: Use Previous Answer

$$3 + 3 = 6$$

$$5 + 2^{\text{nd}} \text{ANS} = 11$$