



## hp calculators

HP 10BII Basic Arithmetic

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Order of Operations

Use of Parentheses

Practice solving basic arithmetic problems



## Basic Arithmetic

The HP 10BII can solve basic arithmetic problems with ease. Problems are solved using the built-in arithmetic function keys.

### Order of Operations

The HP 10BII solves problems by evaluating functions in the order in which they are entered. For example, the calculation  $1 + 2 \times 3 =$  will be solved by the HP 10BII by first pressing  $\boxed{1} \boxed{+} \boxed{2} \boxed{\times}$  at which point, the HP 10BII will evaluate the  $1 + 2$  part of the calculation, generating the intermediate answer of 3. Then pressing  $\boxed{3} \boxed{=}$  will cause the HP 10BII to multiply the intermediate answer of 3 by 3 to get the final result of 9.

### Use of Parentheses

If you wish to change the order of execution of functions, then you can use parentheses to tell the HP 10BII to perform certain functions before others. For example, to evaluate the calculation  $1 + 2 \times 3 =$  so that the multiplication is performed before the addition, press:  $\boxed{1} \boxed{+} \boxed{(} \boxed{2} \boxed{\times} \boxed{3} \boxed{)} \boxed{=}$  and the result of 7 will be displayed (note that to access the parentheses, the yellow shift key must be pressed in the keystroke list above). In this case, the parentheses told the HP 10BII to evaluate the calculation starting inside the parentheses and working outward. Note that inside parentheses, the HP 10BII will evaluate calculations in the order in which they are entered, unless another level of parentheses is used.

### Practice solving basic arithmetic problems

Example 1: Evaluate:  $5 + 4 \div 3 \times 2 - 1$

Solution:  $\boxed{5} \boxed{+} \boxed{4} \boxed{\div} \boxed{3} \boxed{\times} \boxed{2} \boxed{-} \boxed{1} \boxed{=}$

Answer: 5.

Example 2: Evaluate:  $5 + 4 \div 3 \times 2 - 1$  making sure that multiplication and division are performed first.

Solution:  $\boxed{5} \boxed{+} \boxed{(} \boxed{4} \boxed{\div} \boxed{3} \boxed{\times} \boxed{2} \boxed{)} \boxed{-} \boxed{1} \boxed{=}$

Answer: 6.67.

Example 3: Evaluate:  $1 - \left( \frac{1}{(4 - (2 \times 3))} \right)$

Solution:  $\boxed{1} \boxed{-} \boxed{(} \boxed{1} \boxed{\div} \boxed{(} \boxed{4} \boxed{-} \boxed{(} \boxed{2} \boxed{\times} \boxed{3} \boxed{)} \boxed{)} \boxed{)} \boxed{=}$

Answer: 1.5.

Example 4: Evaluate:  $12 \div 3 - 1$  and then multiply the result by 3.5

Solution:  $\boxed{1} \boxed{2} \boxed{\div} \boxed{3} \boxed{-} \boxed{1} \boxed{=}$   
 $\boxed{\times} \boxed{3} \boxed{\cdot} \boxed{5} \boxed{=}$

Answer: The initial answer is 3 and the final answer is 10.5. Note that to re-use a number shown in the HP 10BII display in another calculation, just press the next function to be performed – the HP 10BII will automatically apply the function pressed to the number in the display.

Example 5: Evaluate  $-3 \times 5 + -4$

Solution: Note that this problem involves negative numbers entered by keying in the number and then pressing the  $\boxed{+/-}$  key to make it negative.

$\boxed{3} \boxed{+/-} \boxed{\times} \boxed{5} \boxed{+} \boxed{4} \boxed{+/-} \boxed{=}$

Answer: -19.