hp calculators

HP 10s Basic Arithmetic

Practice Doing Arithmetic

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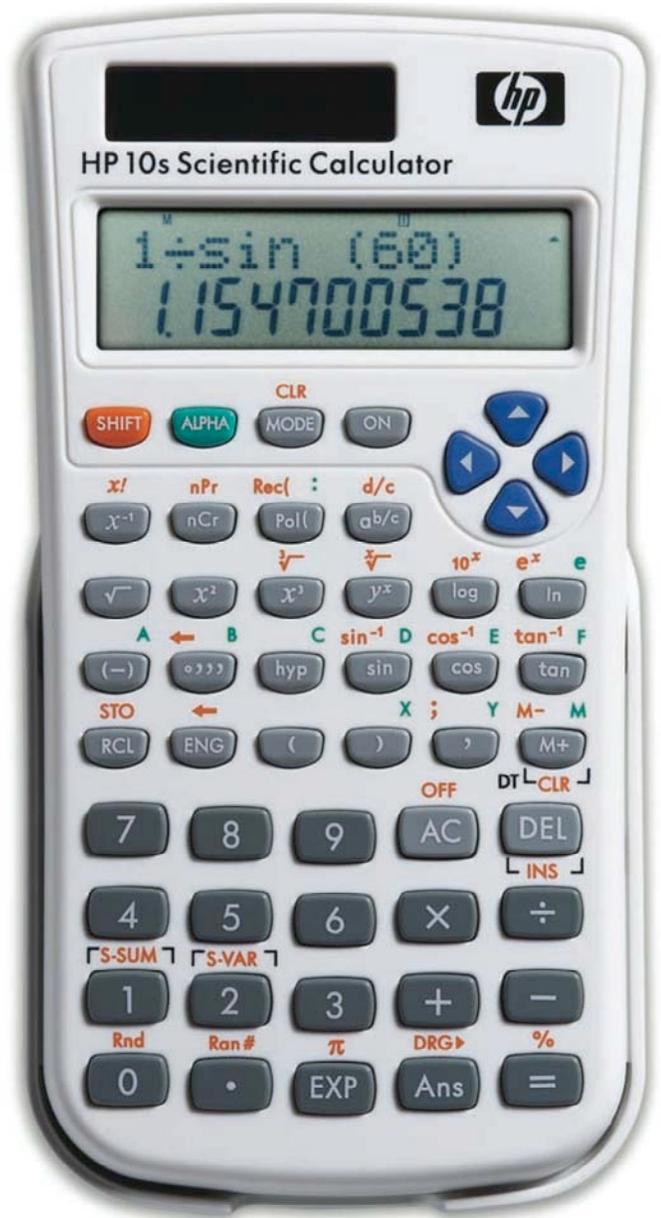
Practice doing arithmetic

This learning module describes how to carry out simple arithmetic calculations on your HP 10s. Since the HP 10s uses the familiar *algebraic* entry system, you will not need to learn a new method: expressions involving the four basic arithmetic functions are entered in the same left-to-right order that you would write them on paper.

We will work in the main operating mode (i.e. [MODE] [1] .) All these modes are described in greater detail in their respective learning modules and in the HP 10s learning module *Operating Modes and Display Format..*

In the following examples the default display format (floating point) is assumed. If you have changed this format, press these keys to restore the default mode: press [MODE] until you see Fix Sci Norm. Then press [3] and then [1]. Display formats are also discussed in the HP 10s learning module *Operating Modes and Display Format*.

To be sure your calculator displays the same results as shown below, press [AC] now to clear any previous calculation.

Example 1:   Add 721.07 and 223.89

Solution: Press:

[7] [2] [1] [·] [0] [7] [+] [2] [2] [3] [·] [8] [9] [=]

The result appears as soon as [=] has been pressed.

Answer: 944.96

Once the HP 10s has completed a calculation, the result can be used in another one. This is called a *chain* calculation:

Example 2:   Multiply the previous result by 5

Solution: [×] [5] [=]

Answer: 4724.8

Example 3:   Calculate 750.34 × 36 – 25

Solution: This is a new calculation, but you need not press [AC] first. Press:

[7] [5] [0] [·] [3] [4] [×] [3] [6] [−] [2] [5] [=]

Note that you need not put 750.34 × 36 in parentheses because [×] and [÷] take priority over [+] and [−]: when the [−] key was pressed, the partial result 750.34 × 36 was displayed, and then the [=] key performed the calculation (750.34 × 36) – 25.

Answer: 26987.24

Example 4:   Calculate –75 × 45 and 4.52 × (–7.1)

Solution: To key in negative numbers the ⌷ key must be pressed *BEFORE* keying in a number. The first calculation can be done like this:

[(-)] [7] [5] [×] [4] [5] [=]

Likewise, to do the second calculation, press:

[4] [·] [5] [2] [×] [(-)] [7] [·] [1] [=]

Answers: –3375 and –32.092

Parentheses are important in specifying the order of operation. Without parentheses, the HP 10s calculates according to the order of algebraic precedence, that is: multiplications and divisions take priority over addition and subtraction. Trailing parentheses that would be entered just before pressing [=] can be omitted. Parentheses are entered by pressing the [(] and [)] keys. The maximum number of pending operations, including open and closed parentheses is determined by the operator stack and is limited to 24.

Example 5: Calculate $(73 - 89) \times (523 + 34)$

Solution: [(] [7] [3] [−] [8] [9] [)] [×] [(] [5] [2] [3] [+] [3] [4] [)] [=]

Note that the partial results (73 – 89) and (523 + 34) are displayed as soon as the parentheses are closed by pressing the [)] key. The first parenthesis is not necessary if the [=] key is pressed before [×]:

[7] [3] [−] [8] [9] [=] [×] [(] [5] [2] [3] [+] [3] [4] [)] [=]

Also, the last closing parenthesis is not necessary either:

[7] [3] [−] [8] [9] [=] [×] [(] [5] [2] [3] [+] [3] [4] [=]

The [=] key always performs all pending operations.

Answer: –8912

Parentheses are also used for specifying the order in which operations with the same priority must be performed. Compare the following two examples.

Example 6: Calculate $\dfrac{8/3}{5}$

Solution: [8] [÷] [3] [÷] [5] [=]

Parentheses are not necessary in this case because as soon as the second [÷] key is pressed, the pending operation 8/3 is done, as intended.

Answer: 0.533333333

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Example 7:   Calculate $\dfrac{8}{3/\!\!/5}$

Solution: $\boxed{8}\ \boxed{\div}\ \boxed{(}\ \boxed{3}\ \boxed{\div}\ \boxed{5}\ \boxed{=}$

Answer: 13.33333333