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AppleWorks: Rounding Techniques

AppleWorks' spreadsheet provides different rounding techniques that can be used either to display or calculate numbers to varying decimal places. Choose the technique below that best applies to your situation and the version of AppleWorks you are using.

There are two ways of truncating numbers. The first, called the "integer" of a number, merely drops any decimal value the number might have. (The integer of 2.56 is 2.) The second type, called "rounding", changes the number to the closest value with the desired precision. For example, 2.56, rounded to the nearest integer, is 3. 2.56 rounded to the nearest tenth is 2.6.

AppleWorks can accommodate both types of calculations. All versions of AppleWorks include the INT function, which results in the integer of a number. A cell with the formula "@INT(3.12)" will display 3.

A ROUND function is available in AppleWorks 2.0 only. It accepts two parameters; the value to be rounded, and the number of decimal places of precision. The second argument (number of decimal places) is converted to an integer, and must be in the range from -15 to +15, inclusive. If the number of decimal places is 1, then the value is rounded to the nearest tenth. If the number of decimal places is -1, the value is rounded to the nearest multiple of 10. The formula "@ROUND(5.4613,1)" will result in the value 5.5, since one decimal place has been requested.

A rounding effect can also be forced by using the spreadsheet layout options. Choosing a fixed value format alters the spreadsheet to display only the number of decimal places requested. It does not change the value contained by the cell, so that dependent calculations will continue to use the more precise value.

Situations sometimes occur in AppleWorks that cause incorrect (or unexpected) values to appear. For example, if the value 1.17 is entered into cell A1, and cell A2 uses the formula @INT(A1*100)/100, then A2 would be expected to display the value 1.17. Problems with binary/decimal conversion make A2's value 1.16. To correct this, use the formula @INT(A1*100+.000001)/100 in cell A2, which delivers 1.17. This type of correction will work with all versions of AppleWorks.

These anomalies normally appear only as the result of calculations, as in the above example. In those cases, use a formula like the one above to bring the answer into agreement with expectations. The formula should be of this type:

```
@INT(cell * n + .000001) / n

where "cell" represent the cell with the number or calculation to be
massaged, and "n" represents a power of 10. If you wish to have two decimal
places displayed in the answer, use n = 100. N = 1000 will give results to
thousandths place, n = 10 is appropriate for one decimal place, etc. The
value ".000001" isn't absolute; it just needs to be a very small value
relative to the value in "cell".
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