

# Re: A wrong calculation by excel

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*Source:* <http://www.tech-archive.net/Archive/Excel/microsoft.public.excel.misc/2008-02/msg00843.html>

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- *From:* "Bernard Liengme" <[bliengme@xxxxxxxxxxxxxxxxxxxxxx](mailto:bliengme@xxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Wed, 6 Feb 2008 18:53:02 -0400
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This so-called error is the result of the computer converting decimals numbers (base 10) to binary (base 2)

See one or more of these

[IEEE 754](#)

Floating-point arithmetic may give inaccurate results in Excel

<http://support.microsoft.com/kb/78113/en-us>

(Complete) Tutorial to Understand IEEE Floating-Point Errors

<http://support.microsoft.com/kb/42980>

What Every Computer Scientist Should Know About Floating Point

[http://docs.sun.com/source/806-3568/ncg\\_goldberg.html](http://docs.sun.com/source/806-3568/ncg_goldberg.html)

<http://www.cpearson.com/excel/rounding.htm>

Visual Basic and Arithmetic Precision

<http://support.microsoft.com/default.aspx?scid=http://support.microsoft.com:80/support/kb/articles/Q279/7/55.ASP&N>

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Bernard V Liengme

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remove caps from email

"Captain" <[Captain@xxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:Captain@xxxxxxxxxxxxxxxxxxxxxxxxxx)> wrote in message  
<news:58B51CF9-1485-4C90-AAE5-0352062B7BBA@xxxxxxxxxxxxxxxxxxxx>

Your problem is exactly the same as mine. I found that there was an error in the 13th decimal place when subtracting exactly \$1,015.00 from \$1,183.30! Get around this error by writing a formula that accepts a calculation as correct if it matches the expected answer to within \$.01 or within .01%, etc.

example: `IF(AND(A1<B1+.01,A1>B1-.01),"OK","error")`.

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E. Polizzi

"BobD" wrote:

I am using Excel 2003 Professional Edition. If you include the following formula into a cell, it produces a result of 8.74999999999999 if you

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expand  
the decimal places to 16. The correct answer is 8.75. The formula is  
 $((17.15-17)*10/6+17)-((8.3-8)*10/6+8)$ . This only happens if you use 17.15  
and  
8.3. I came across this when using a process to convert times to  
decimals  
and then subtract one from the other. Anyone have any ideas?

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BobD