

## Percentage Differences – Be Careful Out There ~

*Suggestion:* If Item A is 7% bigger than item B – does one draw the same conclusion if Item B is 93% the size of Item A ? True or False ? Let's take a look. ~

Say an “English” apple pie takes *exactly* 107 apples whereas a “Metric” apple pie takes only 100 apples (*exactly*).

To calculate the % the “English” apple pie is larger than a “Metric” apple pie we would perform the following calculation:

$$[100] [?] = [107]$$

$$\text{with } [?] = 1.07 \text{ or } 107\%$$

as such the “English” apple pie is *exactly* 7% larger than the “Metric” apple pie.

If one considered that the above suggestion was true, then  $[100] / [107]$  (*as a %*) would be 93% exactly, but instead it's 93.46 %. Is this difference important ? **Yes !**

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Let's take another look:

Say the “English” apple pie takes exactly 100 apples whereas the “Metric” apple pie takes exactly 90 apples – we'd say the “Metric” pie is 90% the size of the “English” pie - right ?

Is this the same as saying that the “English” pie is 10% larger than the “Metric” pie ?

No – as follows:

$$[90] [110\%] = [90] [1.1] = 99$$

not 100, that might otherwise be suggested – and **Yes** that one apple is a significant difference !