

Research indicates that over 80% of all spreadsheets contain errors of one description or another, ranging from harmless typo's to absolute show stoppers.

$$7+3 \times 2 = ?$$

20 or 13 ?

Generally speaking this is a fairly straightforward arithmetical question and the answer is **20**.

Certainly if you are doing the sum in your head or using a calculator then this is what you will get. But what if you are using Microsoft Excel?

You might be shocked to learn that the answer is **13**.

Rules:

Plus (+) and minus (-) are given equal priority by Excel and are dealt with sequentially reading from left to right. So,

$$7-3+2 \text{ goes } 7-3 = 4, \text{ plus } 2 = 6$$

Or

$$7+3-2 \text{ goes } 7+3 = 10, \text{ minus } 2 = 8$$

So far so good, but:

Multiply (*) and divide (/) are also given equal priority by Excel but a **higher** one than plus and minus and are dealt with sequentially reading from left to right as well. So,

$$7+3 \times 2 \text{ goes } 3 \times 2 = 6, \text{ plus } 7 = 13$$

Or

$$7+3/2 \text{ goes } 3/2 = 1.5 \text{ plus } 7 = 8.5$$

But what if you want the addition or subtraction to take place first?

Brackets:

Brackets enable you to impose order and control over the way Excel performs calculations.

There are only two rules to remember:

- Anything in brackets will be calculated first.
- Anything within brackets is calculated in the order **D**ivision, **M**ultiplication, **A**ddition and **S**ubtraction, better known as the **Bodmas** rule. So:

$$(7+3) \times 2 \text{ goes } (7+3) = 10, \text{ times } 2 = 20$$

Or

$$(25-10)+(15 \times 2) \text{ goes } 15 \text{ times } 2 = 30, 25 - 10 = 15, 30 \text{ plus } 15 = 45$$