Using the IF Function

Conditional logic statements are very common and very useful in Excel, particularly in the creation of interactive worksheets, possibly one of the most useful function is the **IF**.

The IF function is in three parts, **IF** this happens **THEN** this will happen otherwise (**ELSE**) this will happen. For example, **IF** I win the lottery jackpot **THEN** I will buy a huge house **ELSE** I'm stuck with the one I have!

In Excel terms the syntax is, **IF(logical_test, value_if_true, value_if_false)**

IF **THEN** **ELSE**

The following example checks to see if the multiplication of two numbers in has been carried out correctly by the pupil and marks the answer "Correct!" or "Try again".

6	×	7	=	42	Correct!
8	×	9	=	74	Try again
10	×	11	=		Try again

The formula used in the cells with the outcome is: **=IF(E1=A1*C1,"Correct!","Try again")**
i.e. **IF** the answer equals the first number multiplied by the second **THEN** display "Correct!" **ELSE** display "Try again".

Clearly this IF statement is not perfect as a question unanswered is marked "Try again". A single IF statement can only differentiate between two options, our example has three options; right, wrong and neither. To correct this we can use **nested** IF statements.

For example, **IF** team wins **THEN** award 3 points **ELSE** (**IF** game is drawn **THEN** award 1 point **ELSE** award 0 points).

Modifying our formula gives:

6	×	7	=	42	Correct!
8	×	9	=	74	Try again
10	×	11	=		

This time the formula is: **=IF(E1="","",IF(E2=A1*C1,"Correct!","Try again"))**

i.e. **IF** the answer cell is empty **THEN** display nothing ("") **ELSE IF** the answer equals the first number multiplied by the second **THEN** display "Correct!" **ELSE** display "Try again".