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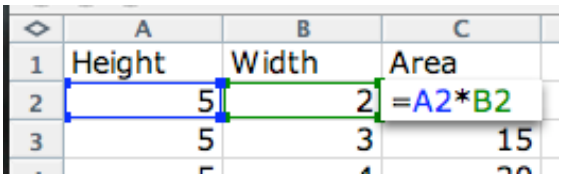
Some useful things in Excel

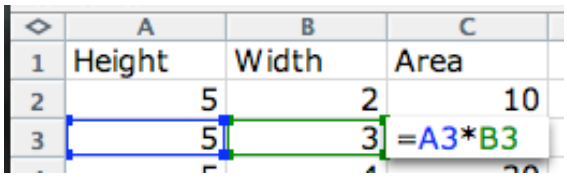
Basics of cell references.
Cell are designated by the Column Letter and Row Number (e.g., B2)
There are two kinds of references, relative and absolute. All references to another cell begin with an equals sign (=).

Relative references: A relative reference really says "refer to the cell that is x columns to the left (or right) and y columns below (or above) the current cell". If you copy the formula from one cell and paste it in elsewhere, the number and letter will change accordingly.



	A	B	C
1	Height	Width	Area
2	5	2	=A2*B2
3	5	3	15

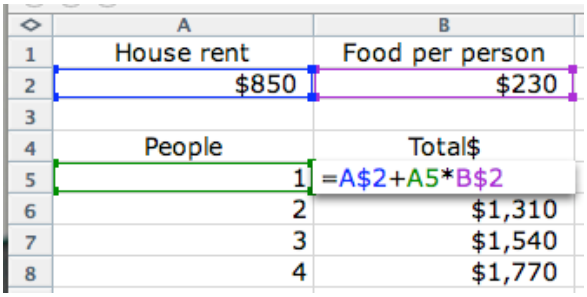
The formula in C2 say multiple the cell two to the left by the cell one to the left to calculate the area.



	A	B	C
1	Height	Width	Area
2	5	2	10
3	5	3	=A3*B3

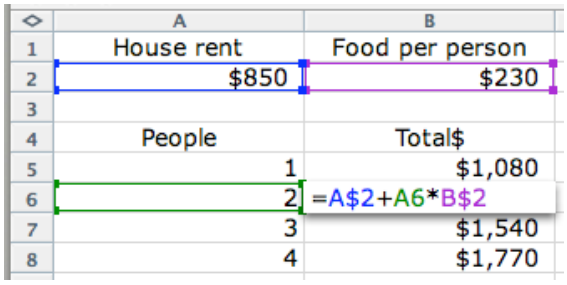
If copied to cell C3, the row numbers automatically change so the formula refers to columns A and B in that row

Absolute references: Placing a "$" before either the column letter or the row number (or both) means that the references is specifically to that column, or row, or cell, no matter where the formula is places in the spreadsheet. (Note: you can refer to a cell in a different sheet by including the name of the sheet followed by ! before the cell reference: =Sheet2!B3)



	A	B
1	House rent	Food per person
2	$850	$230
3		
4	People	Total$
5	1	=A$2+A5*B$2
6	2	$1,310
7	3	$1,540
8	4	$1,770

Constants for house rent and food per person include an absolute reference to line 2.



	A	B
1	House rent	Food per person
2	$850	$230
3		
4	People	Total$
5	1	$1,080
6	2	=A$2+A6*B$2
7	3	$1,540
8	4	$1,770

When copied down, the line number for the constants does not change, but the reference to the number of people does.

References to other Sheets in a workbook
You can point to cells in another sheet in the same workbook by including the sheet name followed by "1"; In Sheet2, you could add something from Sheet1 =A2 + SUM(Sheet1!A2:11)

References to other workbooks
Point to a different workbook and sheet within it (here Sheet1 in wkbookA) using:
=A2+SUM('[wkbookA.xlsx]Sheet1'!$A$2:$A$11)
Note the single quotes around the file and sheet name, and the ! before the cell address.

Predefined functions. Excel has a large collection of useful predefined functions available under the Insert: Functions menu (or you can just type them in). In general, they have the structure of
=*function*(cellrange), but many are can have complex parts, separated by commas.

	A	B
1	Score	Average
2	85	=average(a2:a6)
3	92	
4	78	
5	64	
6	93	

	A	B
1	Score	Rounded
2	86.15338	=ROUND(A2,2)
3	92.56818	92.57
4	78.59998	78.60
5	64.38603	64.39
6	93.35037	93.35

	A	B	C	D	E
1	Deg	Adj	Opp		
2	15	5	=TAN(A2*PI()/180)*B2		
3	30	7	4.04		
4	45	3	3.00		
5	60	8	13.86		
6	75	5	18.66		

If-then-else functions. Conditional responses us and if-then function, with the form:
=if(*condition_is_true*, *then_do_this*, *else_do_this)*.
I use this for **double data entry** (*general note*: proofreading entered data is both inefficient and ineffective. Use double entry!) You can double enter on the same sheet, in different sheets in the same worksheet, or in separate worksheets.

	A	B	C	D	E	F	G
1	1st data entry			2nd data entry		2	
2							
3	Rep	Score		Rep	Score	Check	
4	1	37.94		1	37.94	=IF(B4=E4,0,1)	
5	2	48.37		2	48.37	0	
6	3	68.32		3	68.52	1	
7	4	25.60		4	25.60	0	
8	5	18.40		5	19.40	1	

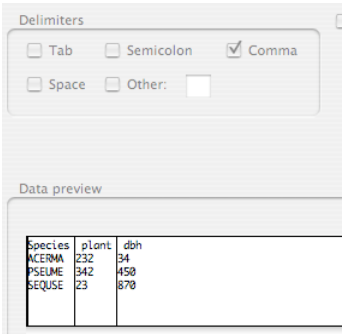
	F	G
	=SUM(F4:F8)	
	Check	
	0	
	0	
	1	
	0	
	1	

Enter the data twice, independently. Use an *if* function to say: *if* the first entry equals the second entry, *then* write 0, *else* write 1. Cell F2 then returns the number of mismatched lines of data. You can search for "1"s to correct the data.

Parsing data.
Excel data are "tab delimited", that it there is a tab between each column of data.
Many times data are comma delimited, space delimited, or some other symbol. Excel has a flexible parsing tool under Data: Text to columns that allows you to parse the data easily.

	A	B
1	Species, plant, dbh	
2	ACERMA,232,34	
3	PSEUME,342,450	
4	SEQUSE,23,870	

Pasting comma-delimited data into A1 gives this. Select the column (click on the A), and select Data: Text to columns. Choose Delimited



Choose comma, and finish.

	A	B	C
1	Species	plant	dbh
2	ACERMA	232	34
3	PSEUME	342	450
4	SEQUSE	23	870

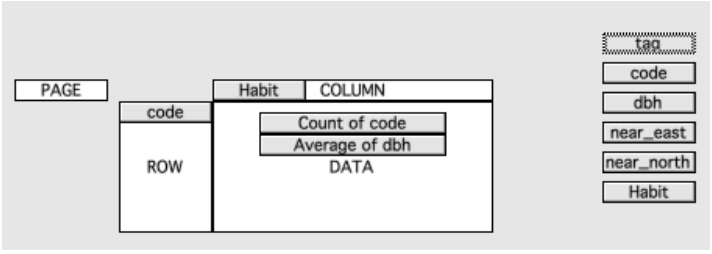
And the data are parsed into separate Excel columns.

Joining columns. Use the "&" to join columns of data. Enclose text in double quotes.

	A	B	C
1	Species	plant	dbh
2	ACERMA	232	=A2&"_"&B2
3	PSEUME	342	PSEUME_342

Convert formulas to hard numbers.
Remember that any time you use formulas, the value is re-calculated every time you change ANYTHING in the spreadsheet. If you sort, or insert something, you might get unexpected changes. When you have a calculation that you want to keep as that value, copy it, and then Edit: Paste special: Values to convert it from a formula to values.

Pivot tables
1. Highlight the data you what to summarize or cross-tabulate. You can choose more columns than you expect to use, but include all the data you need.
2. Choose Data:Pivot Table Report to get the Pivot Table Wizard.
3. Select Microsoft Excel list or database.
4. Confirm that the data range shown is appropriate, or modify as needed.
5. Select New sheet, and click on Layout
6. Drag category labels into the ROW or COLUMN sections; drag a category label or a quantitative value label into the DATA section. You can double click on the elements in the DATA section to choose summary options like Sum, Average, Count. When ready, click OK.



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Mail merge for Evals

1. Set up your roster in an Excel file, with column labels. Include separate columns for scores of course elements, and columns for textual comments. If your comments are "generic", you might want to add columns of He or She, or His or Her, as well.
2. Open up a document in Word. Write the overall structure of the Eval narrative. In the first pass, you can include placeholders for things like FIRST, LAST, EXAMS, COMMENTS. Save the file.
3. From Tools:Mail Merge Manager; 1. Select Document Type: Create New: Form Letters. This should choose the file you just created, and will convert it into mail merge format.
4. From 2. Select Recipients List: Get List: Open Data Source; Navigate to your Roster Excel File, and select the appropriate Sheet from the popup menu.
5. From 3. Insert Placehoders, drag the appropriate column headers into their corresponding places in the Word document. They will appear inside double brackets, like this: «First_Name».
6. When the document is completed, save the document.
7. To preview, under 5. Preview Results, click on they ABC symbol on the left, then use the arrows to scroll through each of the merged documents. Make corrections as needed in the Excel file and in the Word document structure (but not in the text of what is being inserted).
8. When ready to complete the merges, from 6. Complete Merge, select which records you want to merge, and then click on the second icon for Merge to New Document. You can save that document, or print it, as desired.