

# Computer Times

Your Newsletter About Trends in Technology



Mr. Breitsprecher's Edition

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FREE!



## Math Made Easy With Excel



Spreadsheets are most useful when working with numeric data. Excel is full of features that make math easy. In many ways, spreadsheets represent the most powerful calculator you can find.

### Formulas

A special type of cell entry that calculates or returns some other result is called a *formula*. When entered in a cell, the cell displays the results of the formula, not the formula itself. The formula is always displayed in the Entry/Formula bar.

Formulas ALWAYS begin with an equal sign (=). You can create formulas with:

- Math operators such as +, -, \* (multiplication) or / (division)
- Cell references or the cell address that you want to work with
- Values and text
- Preset math operations (which are called functions)

Formulas can be entered 3 ways:

1. You can enter formulas manual by keying the "=" sign and the operation you desire.
2. Enter the "=" sign and then pointing and clicking on the cells you wish to use for the formula. This automatically enters the cell addresses – you will still key the operators such as +, -, and so on.
3. Use the formula palette by clicking the "=" icon and using the formula palette that is displayed below.

### Save Time – Fill Down!

Most spreadsheets (including Excel) have built in feature to make copying a formula across or down a series of cells easy – it is called FILL. In the first 3 spreadsheets we created (Thompson, Inc.; National Grocer; and Clark's Toys) we entered data but did not perform the calculations to complete our work.

While we could enter a formula in each of the cells of the unfinished column – that would be a great deal of unnecessary work – let's let Excel do the busy work. At the top of the column, in the cell indicated, enter the formula that is shown in the examples.

Then highlight that cell with the mouse and select the rest of the cells in the column. Pull down the EDIT menu, select FILL and choose DOWN from the submenu that pops up. Excel will copy your formula into the cells you have indicated and automatically adjust the cell references for each calculation.

### Relative Cell References

Perhaps you recall that a cell reference refers to the column heading and row number of a cell or square in our spreadsheet grid. When you fill down, Excel automatically adjusts these references so that the formula correctly performs the right calculation. How does Excel know what changes to make in the cell references?

A RELATIVE CELL REFERENCE is a cell address that is plainly stated as a column letter and row number (i.e. A3, B7, or K9). When you construct formulas, Excel considers that cell reference relative to it's position in the spreadsheet. When you copy or fill that formula, Excel will automatically reassign the cell address relative to the area of the spreadsheet that you are copying or filling to. This saves you a great deal of time because you do not have to re-write each formula as you apply it throughout a spreadsheet.

### Today's Assignment

On the back of this handout is your assignment for the day. Open up your Thompson, Inc.; National Grocer; and Clark's Toys spreadsheets and add the formulas that are indicate. Use the FILL DOWN feature to copy those formulas down the columns as indicated (EDIT – FILL – DOWN). Because our formulas are constructed with RELATIVE CELL ADDRESSES, Excel will correctly adjust the formula in each cell to correctly solve that equation for that row.

When you have made the changes to our first 3 spreadsheets, create a new spreadsheet for a stock market portfolio. As a quick review, enter the formula as indicated and use the FILL DOWN feature to complete your work. Once you get rolling, IT'S EASY!

	A	B	C	D
1	Thompson, Inc			
2	By: Your Name			
3				
4	Part	Labor	Material	Total
5	A121A	354.65	329.49	=b5+c5
6	C67X	338.59	283.47	Fill Down
7	399Y	116.9	121.38	Fill Down
8	C8V	23.49	17.56	Fill Down
9	RWT10	121.49	99.13	Fill Down
10	I9Y	87.59	124.95	Fill Down
11	U48L	139.99	57.25	Fill Down
12	X31	382.35	224.25	Fill Down
13	J412	125.79	65.75	Fill Down
14	Z100	429.39	325.43	Fill Down
15	W23F	49.59	99.48	Fill Down
16	G121X	125.59	279.68	Fill Down
17	J912	79.85	186.37	Fill Down
18	H798P	85.19	27.58	Fill Down
19	D1212	212.79	65.78	Fill Down

	A	B	C	D
1	Clark's Toys			
2	By: Your Name			
3				
4	Item	Cost	Retail	Profit
5	Stickers	4.99	6.25	=c5-b5
6	Puzzles	5.59	7.69	Fill Down
7	Dolls	6	8.99	Fill Down
8	Footballs	8.29	9.49	Fill Down
9	Horses	4	6.5	Fill Down
10	Bears	5.29	7.59	Fill Down
11	Balls	3.99	5.79	Fill Down
12	Chalk	1.99	4.25	Fill Down
13	Models	4.99	8.99	Fill Down
14	Animals	3.99	6.25	Fill Down
15	Heroes	2.99	5.99	Fill Down
16	Baseballs	2.59	4.99	Fill Down
17	Bats	3.99	5.49	Fill Down
18	Gloves	4.79	6.39	Fill Down
19	Caps	1.99	3.79	Fill Down

	A	B	C	D
1	National Grocery			
2	By: Your Name			
3				
4	Customer	Amount	Amount	Amount
5	Name	Owed	Paid	Owed
6	Bouie, L.	40.46	21.95	=B6-C6
7	Ohms, D.	13.49	15.12	Fill Down
8	Prone, A.	98.29	0	Fill Down
9	Witt, J.	83.49	0	Fill Down
10	Priest, B.	70.67	50	Fill Down
11	Oatly, N.	32.38	25	Fill Down
12	Shurr, P.	14.36	14.36	Fill Down
13	Tracz, M.	57.67	57.67	Fill Down
14	Jones, R.	35.85	30	Fill Down
15	Hahn, B.	85.45	75	Fill Down
16	Rick, J.	125.39	50	Fill Down
17	Swan, W.	78.45	39.25	Fill Down
18	Berg, L.	25.12	12.56	Fill Down
19	Hock, C.	15.25	15.25	Fill Down

	A	B	C	D
1	Stock Portfolio			
2	February			
3	Your Name			
4				
5	Stock	January	February	Price
6	Name	Close	Close	Change
7	Steel	46.75	58.25	=b7-c7
8	Carbide	42.63	68.13	Fill Down
9	Paperone	68	52.88	Fill Down
10	Halton	43	29.25	Fill Down
11	Meyers	64.88	76.38	Fill Down
12	Midyear	105.38	75.25	Fill Down
13	United	22	14.38	Fill Down
14	Walton	21.75	32.38	Fill Down
15	Elcoa	45.63	45.63	Fill Down
16	Sudont	96.38	68.13	Fill Down
17	Toolworth	377.8	307.8	Fill Down
18	Gmart	12.45	15.92	Fill Down
19	Amco	24.95	32.15	Fill Down
20	Schwann	52.36	75.12	Fill Down
21	Amce	65.23	62.12	Fill Down