



**Class: First Stage**  
**Subject: computer applications**  
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# MICROSOFT EXCEL -3-

# FORMULA

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## What's a formula?

A **formula** is an equation that performs some type of operation and issues a result. In Excel, formulas always begin with an equal sign. Here are some formula examples:

- **=2+6:** This formula is strictly math. If you place this formula in a cell, the cell displays **8**.
- **=A1+6:** Same as the preceding, but this time you're adding 6 to whichever value is in cell A1 and displaying the result in the cell into which you enter this formula. This formula does not change A1's contents.
- **=A1+A2:** Same thing again, but you're adding the contents of cell A1 to the contents of cell A2.
- **=A1+A2-A3:** In this example, multiple cells are referenced.

Here are the symbols you can use in formulas to indicate mathematical operations:

- **+**: Addition
- **-**: Subtraction
- **\***: Multiplication
- **/**: Division

### Exercise 16

To try a basic formula, do the following:

1. In a new worksheet, type **6** in cell A1 and **7** in cell A2.
2. In cell A3, type **=A1+A2**, and then press **Enter**.
3. Select cell **A3**. Notice that it displays **13** in the cell itself, and in the formula bar, the original formula you entered appears.
4. Click in the formula bar to move the insertion point there and edit the formula to read as follows: **=A1+A2+5**. Then press **Enter**. The value now appears as **18**.
5. Change the value in cell A1 to **4**. The value in A3 changes to 16.

### More Formula Examples

The math operators in Excel have an order of operation, just like in regular math. The order of operation is the order in which they're processed when multiple operators appear in the same formula. Here are the rules that determine the order:

1. Any operations that are in parentheses, from left to right
2. Multiplication (\*) and division (/)
3. Addition (+) and subtraction (-)

Parentheses override everything and go first. So, if you need to execute an operation out of the normal order, you place it in parentheses. Now let's try some formula examples that refer to cells and use math operations. For this exercise, enter the following values in cells in a blank worksheet:

A1: 12 A2: 6 A3: 4 A4: 9

### Exercise 17

Now let's create the following formulas:

1. In cell A5, create a formula that adds  $A1+A2+A3+A4$ .
2. In cell A6, create a formula that adds  $A1+A2$ , and then multiplies the result by the sum of  $A3+A4$ . (Remember, operations that you want to perform first should be put in parenthesis.)
3. In cell A7, create a formula that adds  $A1+A2+A3+A4$  and then divides the result by 4.
4. In cell A8, create a formula that first calculates  $A1+A4$  and then divides it by  $A3$ .
5. Here are the correct answers!

5	31
6	234
7	7.75
8	5.25

### Printing

**Let's prepare to print!** If your worksheet is more than one printed page, it is possible to have the heading on each page by going to the **Page Layout** tab, in the **Page Setup** group and click **Print Titles**.

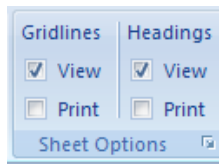


On the **Sheet** tab, under **Print Titles**, do one or both of the following:

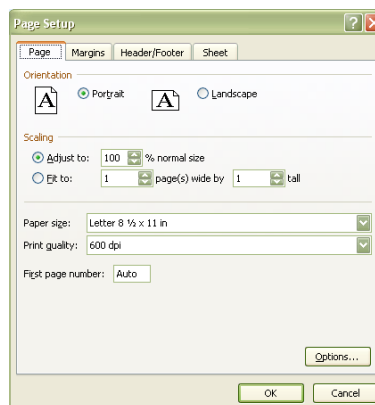
In the **Rows to repeat at top** box, type the reference of the rows that contain the column labels if you want the heading repeated on each page.

In the **Columns to repeat at left** box, type the reference of the columns that contain the row labels if you want those to show.

**We want our sheet to print with no gridlines, and centered horizontally across the page, but not vertically.** Let's go the *Page Layout > Sheet Options*. There should not be a check under **Print** in the Gridline section.




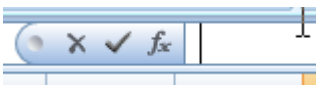


Make sure that you have checked your spelling and made any necessary corrections. Click on the **Office Button** and **Print>Print Preview** (Always do a print preview in Excel!). Click on *Page Setup>Margins* and make sure that there is a check under **“Center on Page” > horizontally**. Now let's print!!!



## Recognizing Cursor Styles

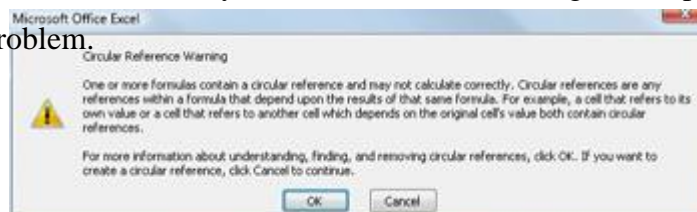
There are four common cursor styles used in Excel.

	Click and drag to highlight multiple cells with this cursor, or click in a cell to select the single cell		Click and drag with this cursor to fill cell contents into cells below or to the right.
	Click and drag the contents of the selected cell to any other cell.		Click to place the cursor into the Formula bar so that you can edit an equation or function.

## Common formula errors

Here are some of the most common mistakes people make when entering formulas and functions:

- **Not putting in all the required arguments:** If a function is expecting more arguments than you have entered, and you get a dialog box, be sure you've placed commas between the arguments and that you haven't overlooked any.
- **Circular references:** If you refer to the cell's own address in a function, you create a circular error, which is like an endless loop. Suppose that you enter `=A1+1` into cell A1. You'll get an error message like the one below. If you click **OK** at this message, a Help window appears to help you find the problem.



- **Text in an argument:** Most functions require numeric arguments. If you enter text as an argument, for example, =SUM(text), the word #NAME? appears in the cell. This happens because Excel allows you to name ranges of cells using text, so technically =SUM(text) isn't an invalid function. It is invalid only if there's no range that has been assigned the name "text."
- **Hash marks (###) in a cell:** This happens when the cell isn't wide enough to display its value. Widen the column to fix this.

If you receive an error when copying a formula, don't panic; it happens to everyone. Use the skills you learned earlier in this chapter to display the formulas and then check them for the common errors discussed here.

## Handy Books and Online Excel Tutorials

### Microsoft Excel 2003 Books

<i>Title</i>	<i>Author</i>	<b>Published</b>	
		<b>Date</b>	<b>Call Number</b>
<i>Excel 2003 for dummies</i>	Greg Harvey	2003	005.54HAR
<i>Excel 2003 bible</i>	John Walkenbach	2003	005.36WAL
<i>Excel 2003 formulas</i>	John Walkenbach	2004	005.54WAL
<i>Microsoft Excel for beginners</i>	Web Wise Seniors	2008	005.54MIC/L GPR
<i>Microsoft Office Excel 2003 step by step</i>	Curtis Frye	2003	005.369FRY
<i>Microsoft Office Excel 2003</i>	Craig Stinson & Mark Dodge	2004	005.369 STI
<i>Microsoft Office Excel 2003</i>	Timothy J. O'Leary & Linda I. O'Leary	2004	005.54 OLE
<i>Sams teach yourself Microsoft Office Excel 2003 in 24 hours</i>	Trudi Reisner	2003	005.54 REI
<i>Show me Microsoft Office Excel 2003</i>	Steve Johnson	2003	

### DVDs

<i>Microsoft Excel 2003: Level 1</i>		2005	005.5 MIC
<i>Microsoft Excel 2003: Level 2</i>		2004	005.5 MIC

### Microsoft Excel 2007 Books

<i>Title</i>	<i>Author</i>	<b>Published</b>	
		<b>Date</b>	<b>Call Number</b>
<i>Excel 2007 : beyond the manual</i>	Helen Dixon	2007	005.54DIX
<i>Excel 2007 charts made easy</i>	Kathy Jacobs, Curt Frye, Doug Frye	2009	005.54JAC
<i>Excel 2007 bible</i>	John Walkenbach	2007	005.54WAL
<i>Microsoft Office Excel 2007 plain &amp; simple</i>	Curtis D. Frye	2007	005.54FRY
<i>Microsoft Office Excel 2007 for dummies</i>	Greg Harvey	2007	005.54HAR
<i>Special edition using Microsoft Excel 2007</i>	Bill Jelen	2007	
<i>The unofficial guide to Microsoft Office Excel 2007</i>	Julia Kelly & Curt Simmons	2007	005.54KEL
<i>Sams teach yourself Microsoft Office Excel 2003 in 24</i>	Trudi Reisner	2003	005.54REI

*hours*

*Show me Microsoft Office Excel 2003*

Steve Johnson

2003

**DVDs**

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*Introduction to Microsoft Office Excel 2007. Part 1*

2005

005.5 INT

*Introduction to Microsoft Office Excel 2007, part 2*

2004

005.54INT

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In addition to the books, here are free online tutorials that can help you with Microsoft Excel.

HP Learning Center: <http://h30187.www3.hp.com/>

Microsoft: <http://office.microsoft.com/en-us/excel/FX100646951033.aspx>

Goodwill Industries: <http://www.gcfllearnfree.org/>

Baycon Group: <http://www.baycongroup.com/el0.htm>

Internet4Classrooms: [http://www.internet4classrooms.com/on-line\\_excel.htm](http://www.internet4classrooms.com/on-line_excel.htm)