Excel 2010
Creating Simple Formulas

## Introduction



Excel can be used to calculate numerical information. In this lesson you will learn how to create simple formulas in Excel to add, subtract, multiply, and divide values in a workbook. Also, you will learn the various ways you can use cell references to make working with formulas easier and more efficient.

## Simple Formulas

A formula is an equation that performs a calculation. Like a calculator, Excel can execute formulas that add, subtract, multiply, and divide.

One of the most useful features of Excel is its ability to calculate using a cell address to represent the value in a cell. This is called using a cell reference.

In order to maximize the capabilities of Excel, it is important to understand how to create simple formulas and use cell


Watch the video (3:24). Need help? references.

Watch the video to learn about simple formulas in Excel 2010.

## Creating Simple Formulas

Excel uses standard operators for equations, such as a plus sign for addition (+), a minus sign for subtraction $(-)$, an asterisk for multiplication (*), a forward slash for division (/), and a carat ( ${ }^{\wedge}$ ) for exponents.

The key thing to remember when writing formulas for Excel is that all formulas must begin with an equal sign (=). This is because the cell contains, or is equal to, the formula and its value.

| Addition | + | $=5+5$ |
| :--- | :---: | :--- |
| Subtraction | - | $=5-5$ |
| Multiplication | $*$ | $=5 * 5$ |
| Division | $/$ | $=5 / 5$ |
| Exponents | $\wedge$ | $=5 \wedge 5$ |

## To Create a Simple Formula in Excel:

1. Select the cell where the answer will appear (B4, for example).


Selecting cell B4
2. Type the equal sign (=).
3. Type in the formula you want Excel to calculate. For example, "75/250".


## Entering formula in B4

4. Press Enter. The formula will be calculated and the value will be displayed in the cell.


Result in B4

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## Creating Formulas with Cell References

When a formula contains a cell address, it is called a cell reference. Creating a formula with cell references is useful because you can update data in your worksheet without having to rewrite the values in the formula.

## To Create a Formula Using Cell References:

1. Select the cell where the answer will appear (B3, for example).

| B3 |  | - |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Budget for June | \$400.00 |  |  |
| 2 | Budget for July | \$300.00 |  |  |
| 3 | Total Budget | \} |  |  |
| 4 |  |  |  |  |

Selecting cell B3
2. Type the equal sign (=).
3. Type the cell address that contains the first number in the equation (B1, for example).

| SUM |  | - $\sim \checkmark f_{x}=\mathrm{B} 1$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Budget for June | \$400.00 |  |  |
| 2 | Budget for July | \$300.00 |  |  |
| 3 | Total Budget | =B1 |  |  |
| 4 |  |  |  |  |

Entering a formula in B3
4. Type the operator you need for your formula. For example, type the addition sign (+).
5. Type the cell address that contains the second number in the equation (B2, for example).

| Sum |  | - $\sim \checkmark \boldsymbol{f}_{\mathbf{x}}=\mathrm{B} 1+\mathrm{B} 2$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Budget for June | \$ 400.00 |  |  |
| 2 | Budget for July | \$300.00 |  |  |
| 3 | Total Budget | = B1+B2 |  |  |
| 4 |  |  |  |  |

Entering a formula in B3
6. Press Enter. The formula will be calculated and the value will be displayed in the cell.

|  | B3 |  |  | $f_{\mathbf{x}}$ | $=\mathrm{B} 1+\mathrm{B} 2$ |
| :--- | :--- | :---: | :---: | :---: | :---: |
|  | A | B | C | D |  |
| $\mathbf{4}$ | Budget for June | $\$ 400.00$ |  |  |  |
| 2 | Budget for July | $\$ 300.00$ |  |  |  |
| 3 | Total Budget | $\$ 700.00$ |  |  |  |
| 4 |  |  |  |  |  |

Result in B3
If you change a value in either B1 or B2, the total will automatically recalculate.


Result in B3

## To Create a Formula using the Point and Click Method:

1. Select the cell where the answer will appear (B4, for example).

| B4 |  | $f_{x}$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Hardwood Floor Repair |  |  |  |
| 2 | Hours | Rate |  |  |
| 3 | 3.4 | \$ 25.00 |  |  |
| 4 | Total | 亿 |  |  |
| 5 |  |  |  |  |

## Selecting cell B4

2. Type the equal sign (=).
3. Click on the first cell to be included in the formula (A3, for example).

| SUM |  | $\cdots \times \sqrt{x}$ |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Hardwood Floor Repair |  |  |  |
| 2 | Hours | Rate |  |  |
| 3 | 3.4 | \$ 25.00 |  |  |
| 4 | Total | =A3 |  |  |
| 5 |  |  |  |  |

Clicking cell A3
4. Type the operator you need for your formula. For example, type the multiplication sign (*).
5. Click on the next cell in the formula (B3, for example).


Clicking cell B3
6. Press Enter. The formula will be calculated and the value will be displayed in the cell.

| B4 |  | - |  | =A3*B3 |
| :---: | :---: | :---: | :---: | :---: |
| 4 | A | B | C | D |
| 1 | Hardwo | oor Repair |  |  |
| 2 | Hours | Rate |  |  |
| 3 | 3.4 | \$ 25.00 |  |  |
| 4 | Total | \$ 85.00 |  |  |
| 5 |  |  |  |  |

Result in B4

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## To Edit a Formula:

1. Click on the cell you want to edit.
2. Insert the cursor in the formula bar and edit the formula as desired. You can also double-click the cell to view and edit the formula directly from the cell.
3. When finished, press Enter or select the Enter command $\checkmark$.


Edit a formula
4. The new value will be displayed in the cell.

|  | =F3+F4 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | E |  | F | G |
| List |  |  |  |  |
|  | Budget for June |  | 400.00 |  |
|  | Budget for July |  | 300.00 |  |
|  | Total Budget |  | 700.00 |  |

Result

If you change your mind, use the Cancel command $X$ in the formula bar to avoid accidentally making changes to your formula.

## Challenge!



1. Open an existing Excel workbook. If you want, you can use this example.
2. Write a simple division formula. If you are using the example, write the formula in cell B18 to calculate the painting cost per square foot.
3. Write a simple addition formula using cell references. If you are using the example, write the formula in cell F5 to calculate the "Total Budget."
4. Write a simple subtraction formula using the point and click method. If you are using the example, subtract the "Expand Bathroom" cost (C6) from the "Total" cost (C11). Calculate your answer in C12.
5. Edit a formula using the formula bar.
