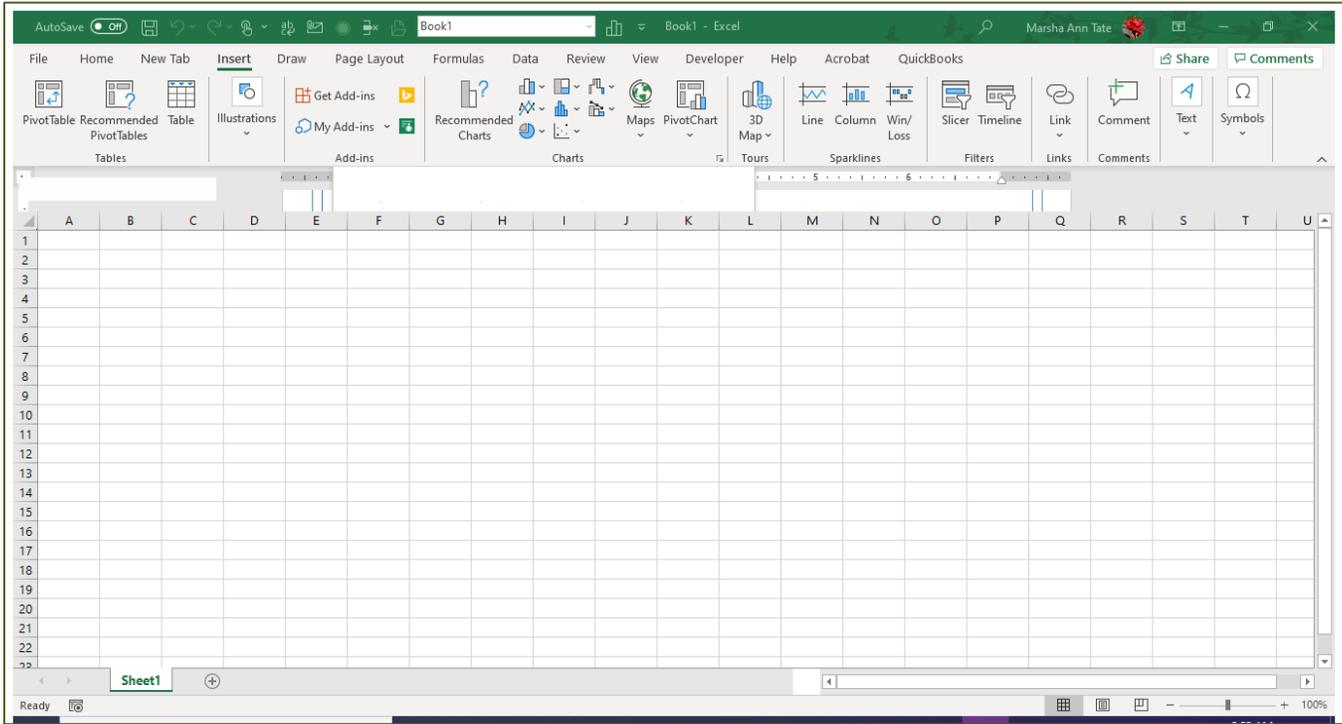


# Excel Basics



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## Navigating the Worksheet

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**Table 1. Worksheet Navigation Keys**

Press	To move:
Arrow keys	Left, right, up, or down one cell
Home	To the beginning of the row
Page Down	Down one screen
Page Up	Up one screen
Alt+Page Down	One screen to the right
Alt+Page Up	One screen to the left
Ctrl+Home	To the beginning of the worksheet
Ctrl+End	To the bottom right corner of the used portion of the worksheet
Ctrl+arrow keys	In the direction of the arrow to the next non-blank cell if the current cell is blank, or to the last non-blank cell if the current cell is non-blank

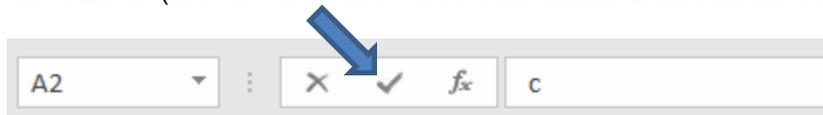
Source: McFedries 2007, p. 203.

## Entering and Editing Text

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### Enter Text

- In Excel, text entries can consist of “any combination of letters, numbers, symbols, and spaces not used in calculations”
- “Text aligns at the **left** cell margin by default.
- To enter text:
  - Make sure the cell is **active** where you want to enter text.
    - An *active cell* is the cell currently selected. It will have a **bold border**.
    - To make a cell *active*, *click* in the cell or use the keyboard arrows to navigate to the desired cell.
  - *Type* the text.
  - Do one of the following to make another cell the active cell after entering data:
    - *Press **Enter*** on the keyboard (the cell under will become the active cell).
    - *Press the **left, right, up, or down** arrow keys* on the keyboard.
    - *Press **Tab*** on the keyboard (the cell immediately to the right will become the active cell).
  - Do one of the following to keep the current cell the active cell after entering data:
    - *Press **Ctrl+Enter***.
    - *Click **Enter*** (the check mark between the **Name Box** and the **Formula Bar**).



- **Important!** Excel considers **phone numbers** and **Social Security numbers** as **text entries**.
  - To enter a zip code or other number that begins with a **zero**, *type a single quote (')* before the number. *Example: '07072*

## Enter Numbers

- In Excel, a **number** represents a quantity or a measurable amount.
  - Numbers align at the *right cell margin* by default.
- A number can contain any of the following characters:
  - **0 1 2 3 4 5 6 7 8 9**
  - **+ - ( ) , / . \$ % E e**
- **Note:** If a cell entry includes a space or other character not listed above, the entry will be treated as **text** instead of a **number**.

Table 2. Number Formats		
To enter a:	Do the following:	Example:
Positive number	Type the number	56
Negative number	Type the number inside parentheses	(56)
Percentage	Type the number followed by a percent sign	50%
Fraction	Type an integer (a whole number), <i>space</i> , and then the fraction	5 1/2
Fractional part	Type a 0 (zero) and then the fraction	0 ¼

## Enter Dates and Times

- Since Excel treats dates as **values**, they align at the **right cell margin**.
- You can use a variety of formats to enter dates and times in cells.
  - To **separate a date**, use either the **forward slash (/)** or the **hyphen (-)** (e.g., 5/1/20; 5-1-20).
  - To **separate a time**, use a **colon (:)** (e.g., 6:31 pm).
    - Use a **space** to **separate date and time formats** (e.g., 5/1/20 6:31 pm).
  - To enter a **month**, use a **number** (e.g., 1=January, 2=February), the **first three letters of the month's name** (e.g., Jan), or the **entire month's name** (January).
  - To enter a **year**, use the **last two numbers of the year** (e.g., 20) or the entire year (e.g., 2020).
- Enter date and time values using either **uppercase** or **lowercase** letters (e.g., JAN; jan; PM; pm).
- To display times using the **12-hour clock**, you must include either **am** (or just **a**) or **pm** (or just **p**).
- To enter the **current date** in a cell, press **Ctrl+;** (semicolon).
- To enter the **current time** in a cell, press **Ctrl+:** (colon).

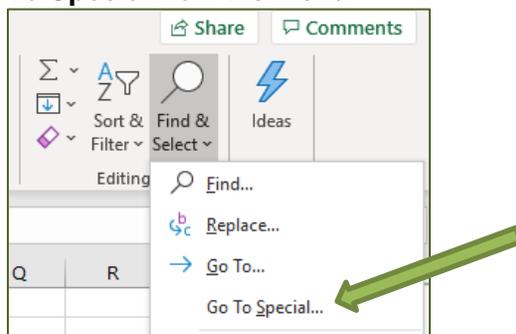
**Table 3. Date and Time Formats**

Format	Example
m/d/yy	2/25/21
d-mmm-yy	25-Feb-21
d-mmm	25-Feb (Excel assumes the current year)
mmm-yy	Feb-19 (Excel assumes the first day of the month)
h:mm:ss AM/PM	11:55:10 PM
H:mm AM/PM	11:55 PM

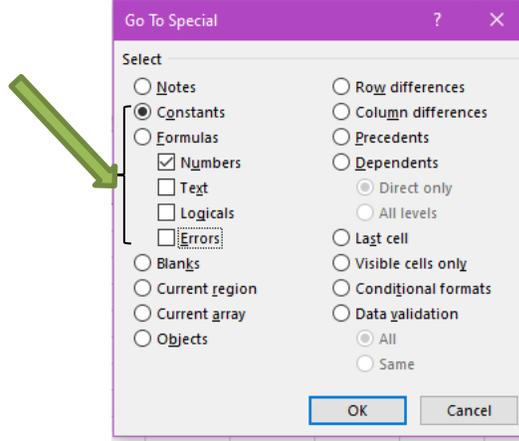
Source: McFedries 2007, p. 200.

## Edit and Clear Cell Contents

- **Edit a cell's contents** by doing one of the following:
  - Click the cell, click in the **Formula Bar**, make the desired changes, and then *press Enter* (the check mark between the **Name Box** and the **Formula Bar**) to keep the cell the active cell.
  - *Double-click* the cell, make changes in the cell, and then *press Enter*.
  - Click the cell, press **F2**, make changes in the cell, and then *press Enter*.
- **Clear a cell's contents** by doing one of the following:
  - Click the cell and *press Delete*.
  - Click the cell, click **Clear** in the **Editing** group on the **HOME** tab, and then *select Clear Contents*.
- **Clear Excel Worksheet Values but Keep Text Fields and Formulas**
  - To clear values (e.g., numbers) from a worksheet but keep all text fields and formulas, do the following:
    - On the **Home** tab, click **Find & Select** in the Editing group, and then select **Go To Special** from the menu



- In the **Go To Special** dialog box, select **Constants** and then *uncheck* all of the boxes under **Formulas** except **Numbers** and click **OK**.



- Press the **Delete** key on your keyboard to remove all of the values on the worksheet.
- Check your worksheet to make sure the data was removed correctly. If it is incorrect, click **Undo (Ctrl+z)** to restore the deleted data.

## Mathematics and Formulas

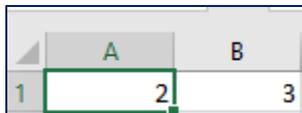
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### Creating Formulas

- **Formulas** combine cell references, arithmetic operations, values, and/or functions (i.e., predefined formulas) used in calculations.
- Start a formula by typing the **equal sign (=)**, followed by the **arithmetic operator** (e.g., +, -, \*, /). Do not include a space before or after the arithmetic operator.”
  - *Examples:* =A1+A2; =A1-A2; =A1\*A2; =A1/A2

### Using Cell References in Formulas

- Whenever possible, use **cell references** instead of actual values in formulas, unless the value is a **constant**.
  - For example, use **=A1+B1** (the cell references) instead of **=2 + 3** (the actual values) to add the numbers in cells A1 and B1 below together.



- When you create formulas, you can type cell references in either uppercase (e.g., **=B2+B3**) or lowercase (e.g., **=b2+b3**). When you type cell references in lowercase, Excel automatically changes the cell references to uppercase.
- “The **order of precedence** (also called *order of operations*) is a rule that controls the sequence in which arithmetic operations are performed, which affects the results of the calculation. Excel

performs mathematical calculations left to right in this order: **Percent, Exponentiation, Multiplication or Division**, and finally **Addition or Subtraction**. Some people remember the order of precedence with the phrase *Please Excuse My Dear Aunt Sally.*”

- “You can change the order of operations by using parentheses. For example, to add the values in cells A1 and A2 and multiply the result by the value in cell A3, enclose parentheses around the addition operation: =(A1+A2)\*A3. Without parentheses, multiplication has a higher order of precedence than addition and will be calculated first.”

**Table 4. The Order of Precedence**

Order	Description	Symbols
1	Reference Operators	Colon (:), space, and comma (,)
2	Negation	-
3	Percent	%
4	Exponentiation	^
5	Multiplication and Division	* and / (respectively)
6	Addition and Subtraction	+ and - (respectively)
7	Concatenation	Ampersand symbol (&) to connect two text strings
8	Comparison	Equal sign (=), great than (>), and less than (<)

## Using Semi-Selection to Create a Formula

“To decrease typing time and ensure accuracy, you can use **semi-selection**, a process of selecting a cell or range of cells for entering cell references as you create formulas. Semi-selection is often called **pointing** because you use the mouse pointer to select cells as you build the formula. To use the semi-selection technique to create a formula, do the following:

1. *Click* the cell where you want to create the formula.
2. *Type* an **equal sign (=)** to start a formula.
3. *Click* the cell or drag to select the cell range that contains the value(s) to use in the formula.
4. *Type* an **arithmetic operator** (e.g., +, -, \*, /)
5. Continue clicking cells, selecting ranges, and typing operators to finish the formula.
6. *Press* **Enter** to complete the formula.

## Using Auto Fill

- “**Auto Fill** enables you to copy the contents of a cell or a range of cells by dragging the **fill handle** (a small green square appearing in the bottom-right corner of the active cell) over an adjacent cell or range of cells.



To use *Auto Fill*, do the following:

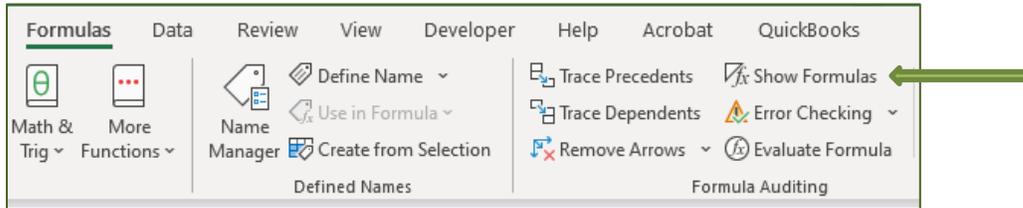
1. *Click* the cell with the content you want to copy to make it the active cell.
2. *Point* to the fill handle in the bottom-right corner of the cell until the mouse pointer changes to the fill pointer (a **thick black plus sign**).
3. *Drag* the fill handle to repeat the content in other cells.”

- **Double-Clicking the Fill Handle:** “You can *double-click* the fill handle to quickly copy a formula down a column. Excel will copy the formula in the active cell for each row of data to calculate in your worksheet.”

## Displaying Cell Formulas

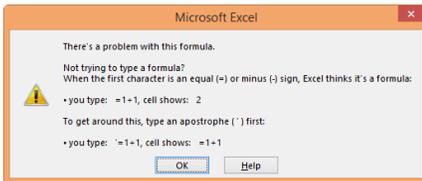
“To display cell formulas, do one of the following:

- Press **Ctrl** and the **grave accent ( ` )** key, (also known as the **tilde key**), in the top-left corner of the keyboard, below the **Esc** key.
- On the **FORMULAS** tab, *click* **Show Formulas** in the **Formula Auditing** group.



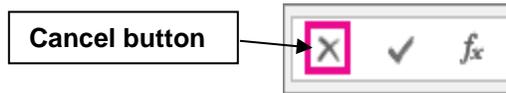
## How to Avoid Broken Formulas

If Excel does not accept a formula you are trying to create, you may get an error message like the one below:



To remove the broken formula, do the following:

1. *Click* **OK** to close the error message. You will return to the cell with the broken formula, which is still in edit mode.
2. Press **Backspace** to remove the formula or *click* the **Cancel** button in the formula bar.



## Workbook and Worksheet Management

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### Renaming a Worksheet

To **rename a worksheet**:

- *Double-click* a **sheet tab**, type the new name, and then *press* **Enter**.
- *Click* the sheet tab for the sheet you want to rename, *click* **Format** in the **Cells** group on the **HOME** tab, select **Rename Sheet**, type the new sheet name, and then *press* **Enter**.
- *Right-click* the sheet tab, select **Rename** from the shortcut menu, type the new sheet name, and then *press* **Enter**.

### Changing the Worksheet Tab Color

To **change the color of a worksheet tab**:

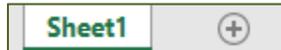
- *Click* the sheet tab for the sheet you want to rename, *click* **Format** in the **Cells** group on the **HOME** tab, point to **Tab Color**, and then *click* a color on the **Tab Color** palette.

- *Right-click* the sheet tab, point to **Tab Color** on the shortcut menu, and then *click* a color on the Tab Color palette.

## Inserting Worksheets

To **insert a new worksheet**:

- *Click* the **New sheet** (i.e., a plus sign inside a circle) to the right of the last worksheet tab.



- *Click* the **Insert arrow**—either to the right or below **Insert**—in the **Cells** group on the **HOME** tab and select **Insert Sheet**.
- *Right-click* any sheet tab, select **Insert** from the shortcut menu, *click* **Worksheet** in the **Insert dialog box**, and then *click* **OK**.

## Deleting Worksheets

To **delete a worksheet**:

- *Click* the **Delete arrow**—either to the right or below **Delete**—in the **Cells** group on the **HOME** tab and select **Delete Sheet**.
  - *Right-click* any sheet tab, select **Delete** from the shortcut menu.”

## Moving and Copying Worksheets

- To **move a worksheet**:
  - *Drag* a worksheet tab to the desired location.
  - *Click* **Format** in the **Cells** group on the **HOME** tab and select **Move or Copy Sheet**, or *right-click* the sheet tab you want to move and select **Move or Copy** to display the *Move or Copy dialog box*. You can move the worksheet within the current workbook, or you can move the worksheet to a different workbook.”
- To **copy a worksheet**:
  - *Press and hold* **Ctrl** as you drag the worksheet tab.”
  - “[D]isplay the **Move or Copy** dialog box, select the **To book** and **Before sheet** options, *click* the **Create a copy** check box, and then *click* **OK**.

## Inserting Cells, Columns, and Rows

- To **insert a new column or row**:
  - *Click* in the column or row for which you want to insert a new column to the left or a new row above, respectively. *Click* the **Insert arrow** in the **Cells** group on the **HOME** tab and select **Insert Sheet Columns** or **Insert Sheet Rows**.
  - *Right-click* the column (letter) or row (number) heading for which you want to insert a new column to the left or a new row above, respectively, and select **Insert** from the shortcut menu.
- To **insert a cell**:
  - *Click* in the cell where you want the new cell.
  - *Click* the **Insert arrow** in the **Cells** group on the **HOME** tab, and then select **Insert Cells**.

## Deleting Cells, Columns, and Rows

- To **delete a column or row**:
  - *Click* the column or row heading for the column or row you want to delete. *Click* **Delete** in the **Cells** group on the **HOME** tab.
  - *Click* in any cell within the column or row you want to delete. *Click* the **Delete arrow** in the **Cells** group on the **HOME** tab and select **Delete Sheet Columns** or **Delete Sheet Rows**, respectively.
  - *Right-click* the column letter or row number for which you want to delete and select **Delete** from the shortcut menu.”
- To **delete a cell**:
  - *Click* in the cell that you want to delete
  - Select **Delete Cells** to display the **Delete dialog box**.
  - *Click* the appropriate option to shift cells left or up and *click* **OK**. Alternatively, *click* **Delete** in the **Cells** group.

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