



# Excel 2019

## Part 3

Revised January 2020

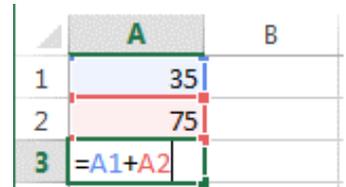
It is assumed that students are familiar with the components of the Windows screen in addition to having basic knowledge about the Excel environment. *Excel 2019 Part 3* covers simple formulas, the AutoSum function, flash fill, headers, protecting cell data, using templates and printing.

### Formulas

A formula allows you to perform calculations on numbers. Only the cell addresses—not the values (numbers)—should be entered in the formula.

Formulas must always begin with an equals sign (=). The formula should be entered immediately following the equal sign (no spaces).

Enter the formula either into the cell in which you want the answer to appear or the formula bar after clicking on the cell. For example, to add the values in cells A1 and A2 and have the answer appear in A3, in cell **A3** type **=A1+A2**.



	A	B
1	35	
2	75	
3	=A1+A2	

### Using Basic Arithmetic operators

For performing basic mathematical operations such as addition, subtraction, or multiplication; combining numbers; and producing numeric results, use the following arithmetic operators:

**When A1=8 and A2=2:**

ARITHMETIC OPERATOR	MEANING	FORMULA	RESULT
+ (plus sign)	Addition	=A1+A2	10
- (minus sign)	Subtraction or Negation	=A1-A2	6
* (asterisk)	Multiplication	=A1*A2	16
/ (forward slash)	Division	=A1/A2	4
^ (caret)	Exponentiation	=A1^A2	64

### Practice Exercise: Using Arithmetic Operators

Open the **excel\_practice\_file** and go to the **Formulas and Functions** worksheet to enter the formulas in the **highlighted cells** for each column:

1. In cell **B9**, type the **Addition** formula **=B4+B5+B6+B7+B8**
2. In cell **D9**, type the **Subtraction** formula **=D7-D8**
3. In cell **F9**, type the **Multiplication** formula **=F7\*F8**
4. In cell **H9**, type the **Division** formula **=H7/H8**

### AutoSum

The AutoSum feature is a shortcut to using Excel's SUM function. It provides a quick way to add columns or rows of numbers in a spreadsheet. The AutoSum icon is the Greek letter Sigma, which looks like an E or sideways M.



### Practice Exercise: AutoSum

1. Go to the **Book Sales** worksheet
2. Click in cell **B8**
3. Go to **Home** tab → **Editing** group → **AutoSum** command to insert the AutoSum formula for January
4. Click on **C8** and **D8** and repeat above steps to calculate the February and March sales
5. Insert the AutoSum function in cells **E4** through **E7** to calculate the 1<sup>st</sup> quarter totals

### Flash Fill

**Flash Fill** is a tool that can enter data automatically into your worksheet, saving you time and effort.

Flash Fill automatically fills your data when it senses a pattern. For example, we will use Flash Fill below to separate first and last names into separate columns. The needed information will be pulled from a list of email addresses.

1. Go to the **Flash Fill** sheet and click on cell **B2**
2. Type the last name Lee in cell B2; press **Enter**
3. Start typing the next last name (Gates) in cell **B3**. Excel will sense the pattern you provide, and show you a preview of the rest of the column filled in with your combined text (last names in this example).
4. Press **Enter** to accept the preview. The list of last names will appear in the B column

If Flash Fill doesn't generate the preview, it might not be turned on. To turn Flash Fill on, go to **Tools** → **Options** → **Advanced** → **Editing Options** → check the **Automatically Flash Fill** box.

Alternatively, go to **Data** → **Flash Fill** to run it manually, or press **Ctrl+E**.

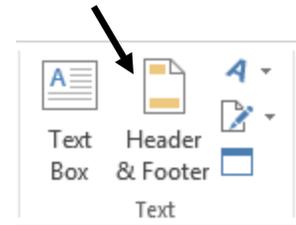
1	Email Address	Last Name	First Name
2	heidi.lee@emailservice.com	Lee	
3	josie.gates@emailservice.com	Gates	
4	wendy.crocker@emailservice.com	Crocker	
5	loretta.johnson@emailservice.com	Johnson	
6	walter.rivera@emailservice.com	Rivera	
7	misty.whitfield@emailservice.com	Whitfield	
8	matilda.lewis@emailservice.com	Lewis	
9	elizabeth.hicks@emailservice.com	Hicks	
10	alvin.rios@emailservice.com	Rios	
11	brian.gaines@emailservice.com	Gaines	
12	megan.bosworth@emailservice.com	Bosworth	
13	maria.menzies@emailservice.com	Menzies	
14	micheal.russell@emailservice.com	Russell	
15	jimmy.lincoln@emailservice.com	Lincoln	
16	martha.mccain@emailservice.com	Mccain	
17	shirley.knight@emailservice.com	Knight	
18	scott.shoult@emailservice.com	Shoult	
19	andy.knott@emailservice.com	Knott	
20	timothy.boll@emailservice.com	Boll	
21	matthew.spence@emailservice.com	Spence	
22	terrance.thayer@emailservice.com	Thayer	
23	nidia.fontaine@emailservice.com	Fontaine	
24	muriel.harris@emailservice.com	Harris	
25	stephen.kennedy@emailservice.com	Kennedy	
26	emanuel.henderson@emailservice.com	Henderson	
27	alan.sweeney@emailservice.com	Sweeney	
28	susie.long@emailservice.com	Long	
29	diana.fritz@emailservice.com	Fritz	
30	juanita.berger@emailservice.com	Berger	
31	philip.brown@emailservice.com	Brown	

## Headers

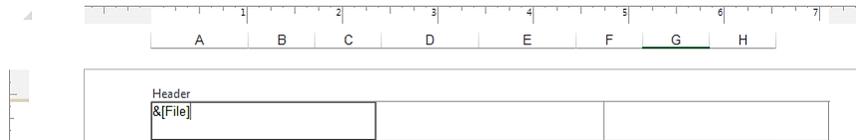
### Adding a Header to a Worksheet

1. Go to the **Insert** tab → **Text** group → **Header & Footer** command

The spreadsheet changes to **Page Layout** view. Three boxes are visible above the worksheet page; by default, the center box is selected.



2. Click inside the left header box
3. Go to the **Header & Footer Tools Design** tab → **Header and Footer Elements** group → **File Name** command

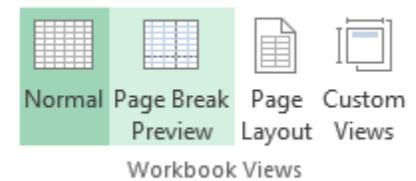


4. Click inside the right header box
5. Go to the **Header & Footer Tools Design** tab → **Header and Footer Elements** group → **Page Number** command



### Returning to Normal View

1. Click on any cell in the worksheet to leave the header area
2. Go to the **View** tab → **Workbook Views** group → **Normal**



### Viewing the Header

Headers are not visible in Normal view. To view a header, choose one of these options:

- Go to the **View** tab → **Workbook Views** group → **Page Layout**
- Click the **Page Layout** view on the status bar at the bottom of the screen

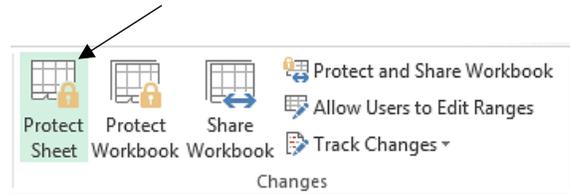


## Protecting Cell Data

Each cell in the worksheet can be locked or unlocked. By default, Excel locks all of the cells in a protected worksheet. By protecting a sheet, users can't inadvertently wipe out a title or formula in the worksheet by entering a value in the wrong column or row.

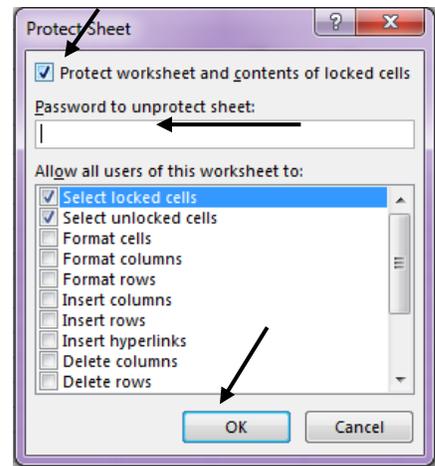
### Protecting Cells

1. Go to the **loan figures** sheet
2. Go to **Review** tab → **Changes** group → **Protect Sheet** command
3. Excel opens the **Protect Sheet** dialog box

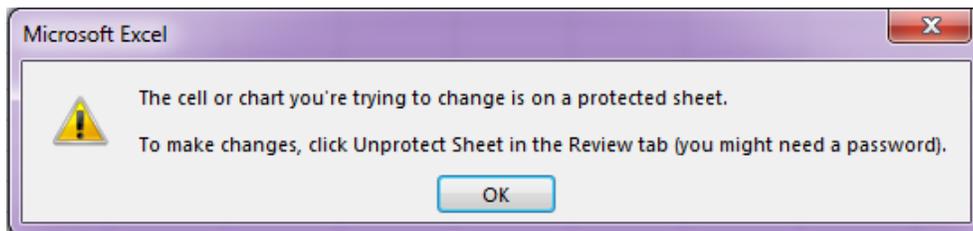


**NOTE:** The **Select locked cells** and **Select unlocked cells** checkboxes are selected by default; any other checkbox can be selected as needed.

4. Type a password into the **Password to unprotect sheet** box
5. Click **OK**
6. Excel opens the **Confirm Password** dialog box. Re-enter the password and click **OK**

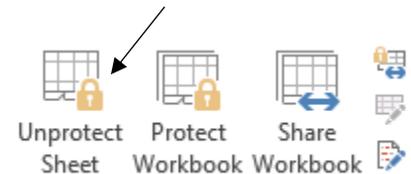


If anyone tries to edit a cell, Excel displays an error message:



### Unlocking All Cells

1. If necessary, go to the **loan figures** sheet
2. Go to **Review** tab → **Changes** group → **Unprotect Sheet** command
3. Type the previously entered password into the **Password** box and click **OK**



## Unlocking Specific Cells

Unlocking specific cells may be practical in certain situations. For example, in a budget worksheet, the owner of the worksheet may want to allow changes in only specific cells while keeping the rest of the cells in the sheet protected. Doing so prevents other users from inadvertently deleting or editing data in locked cells but allows changes in unlocked cells.

1. If necessary, go to the **loan figures** sheet
2. Click on cell **B4**, hold down the **Ctrl** key, and click on cell **B10** so that only those two cells are selected
3. Go to **Home** tab → **Cells** group → **Format** command → **Format Cells**
4. In the **Format Cells** dialog box, click the **Protection** tab
5. Click the **Locked** checkbox to remove the checkmark and click **OK**
6. Protect the worksheet as described earlier



All of cells in the worksheet are now protected *except* for **B4** and **B10**.

## Printing

Printing in Excel is challenging because spreadsheets often cover several pages. The program attempts to print every part of the spreadsheet that contains filled cells.

To print, go to the **File** tab → **Print**

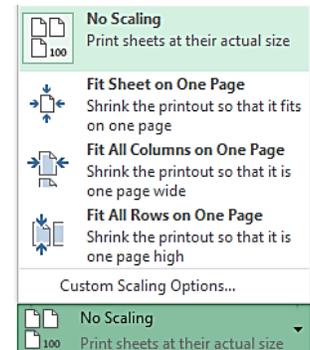
A print preview image appears on the right side of the screen. This displays how the print job will appear when it is printed on paper. Scroll through the different pages of the print job by using the arrows in the bottom left corner of the print preview or by using the scroll bar.

Subscription	Brand	Year	Type	Model	Order Amount
Abouqutub, Kate	Ford	2012	Car	Ford	\$19,957.00
Abouqutub, Kate	Ford	2011	Car	Ford	\$19,161.00
Abouqutub, Kate	Ford	2011	Truck	Toyota	\$22,441.00
Abouqutub, Kate	Toyota	2011	Car	Hyd	\$22,525.00
Abouqutub, Kate	Ford	2011	Truck	F250	\$31,910.00
Bennan, Michael	Toyota	2011	Truck	Toyota	\$25,844.00
Bennan, Michael	Ford	2011	Car	Thru	\$24,020.00
Bennan, Michael	Toyota	2011	Car	Avion	\$22,920.00
Bennan, Michael	Ford	2012	Truck	F250	\$22,960.00
Bennan, Michael	Toyota	2012	SUV	Sequo	\$21,980.00
Diachis, William	Ford	2012	Truck	F250	\$24,020.00
Diachis, William	Ford	2012	Car	Ford	\$17,110.00
Diachis, William	Ford	2012	Truck	Range	\$19,980.00
Diachis, William	Ford	2011	Truck	Range	\$21,020.00
Hale, Andrew	Ford	2011	SUV	Explorer	\$21,020.00
Hale, Andrew	Ford	2012	Truck	F150	\$27,350.00
Hale, Andrew	Toyota	2011	SUV	4Runner	\$18,200.00
Isaacson, Tara	Ford	2012	SUV	Explorer	\$26,024.00
Isaacson, Tara	Ford	2012	Car	Ford	\$18,584.00
Isaacson, Tara	Toyota	2011	Truck	Toyota	\$21,984.00
Isaacson, Tara	Ford	2012	Car	Musta	\$22,984.00
Isaacson, Tara	Ford	2011	Truck	Toyota	\$22,584.00
Isaacson, Tara	Ford	2012	Car	Musta	\$27,284.00
Singleton, Melissa	Toyota	2012	Car	Cay	\$27,360.00
Singleton, Melissa	Toyota	2011	Truck	Highle	\$26,020.00
Singleton, Melissa	Toyota	2011	Truck	Toyota	\$19,980.00
Singleton, Melissa	Toyota	2012	Car	Cor	\$22,020.00
Hayes, Shannon	Toyota	2012	Car	Avion	\$22,960.00
Hayes, Shannon	Ford	2011	SUV	4Runner	\$22,980.00
Hayes, Shannon	Ford	2011	Car	Ford	\$17,280.00
Hayes, Shannon	Ford	2011	Truck	Musta	\$29,110.00
Hayes, Shannon	Toyota	2011	Car	Cor	\$21,980.00
Wain, Chris	Ford	2012	Truck	Range	\$19,024.00
Wain, Chris	Ford	2012	SUV	Musta	\$22,980.00
Wain, Chris	Toyota	2012	SUV	Sequo	\$29,860.00
Wain, Chris	Ford	2012	Car	Ford	\$22,441.00
Wain, Chris	Ford	2011	Truck	F250	\$22,441.00
Wain, Chris	Ford	2012	Car	Ford	\$19,260.00
Wain, Chris	Ford	2012	Truck	F250	\$22,441.00
Venura, Genevieve	Ford	2011	SUV	Explorer	\$22,980.00
Venura, Genevieve	Ford	2011	SUV	Explorer	\$22,980.00
Venura, Genevieve	Ford	2012	Truck	F150	\$22,980.00
Venura, Genevieve	Toyota	2011	Truck	Hyd	\$19,980.00
Venura, Genevieve	Toyota	2011	Car	Cor	\$19,980.00
Venura, Genevieve	Toyota	2012	Car	Avion	\$21,910.00
Venura, Genevieve	Toyota	2011	Truck	Toyota	\$25,210.00

## Fit Sheet on One Page

If fitting the data on the page is a challenge, the **Fit Sheet on One Page** option can be used. However, doing so may shrink the data to an illegible size, so check the page after printing.

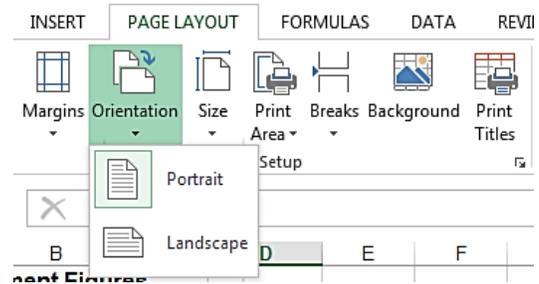
1. Go to **File** tab → **Print** → **Scaling** → **Fit Sheet on One Page**



## Changing Paper Orientation

Spreadsheets are typically printed in Landscape view.

Go to the **Page Layout** tab → **Page Setup** group → **Orientation** command → **Landscape**

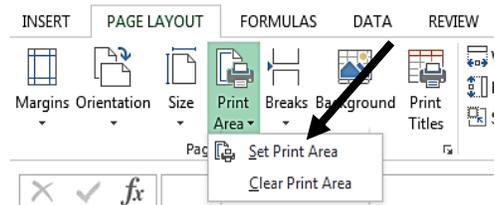


## Printing Part of a Sheet

1. Select the area to be printed
2. Go to the **Page Layout** tab → **Page Setup** group → **Print Area** command → **Set Print Area**; a dashed line appears around the selected area
3. Go to the **File** tab → **Print** to see how the document will print

**NOTE:** Make other necessary changes (see below) before printing

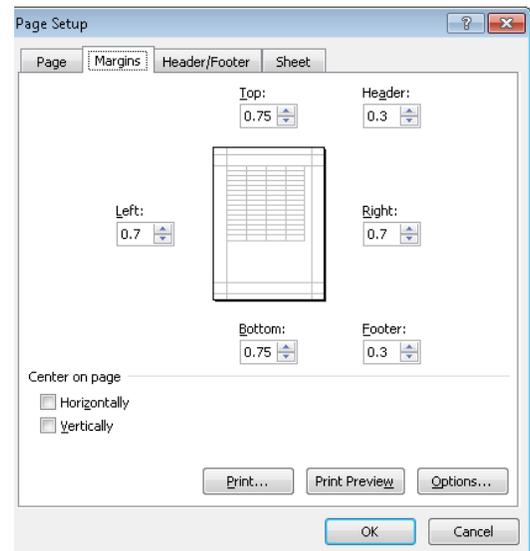
To remove set print area, go to the **Page Layout** tab → **Page Setup** group → **Print Area** command → **Clear Print Area**; a dashed line appears around the selected area



## Changing Margins

Reducing the margins is another way to fit more worksheet data onto a printed page.

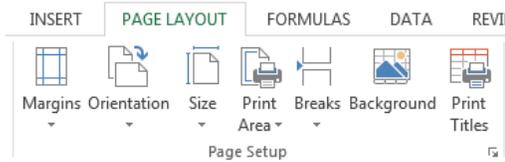
1. Go to the **Page Layout** tab → **Margins** command
2. Choose a setting from the drop-down list or click on **Custom Margins** at the bottom of the list for more options
3. In the **Page Setup** dialog box, use the small up and down triangles to change the size of the margins or click inside the box with the margin value and enter a number
4. Click OK to finalize margins



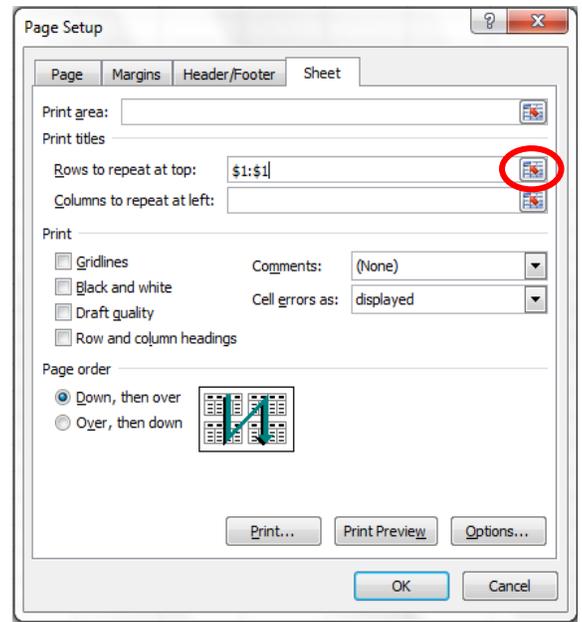
## Printing Row and Column Headings

To print the row and/or column headings on every page:

1. Go to the **PivotTable** worksheet
2. Go to the **Page Layout** tab → **Page Setup** group → **Print Titles** command



3. In the **Page Setup** dialog box, click on the **Sheet** tab (if necessary)
4. Click the icon at the end of the **Rows to repeat at top box**



5. Click the number **1** on the spreadsheet so that Row 1 is selected (indicated by marching ants)

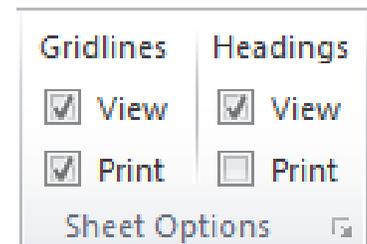
	A	B	C	D	E	F	G
1	Last Name	First Name	Address 1	Address 2	City	State	Zip
2	Andersen	Elizabeth	123 8th Street		Portland	OR	99999

6. Hit **Enter** on the keyboard; **\$1:\$1** appears in the **Rows to repeat at top box**
7. Do the same for the columns (if necessary), using the **Columns to repeat at left box**
8. Click **OK**

## Printing Gridlines

It is typically easier to read spreadsheets when gridlines are visible.

1. Go to the **Page Layout** tab → **Sheet options** group
2. Under **Gridlines**, click the **Print** checkbox

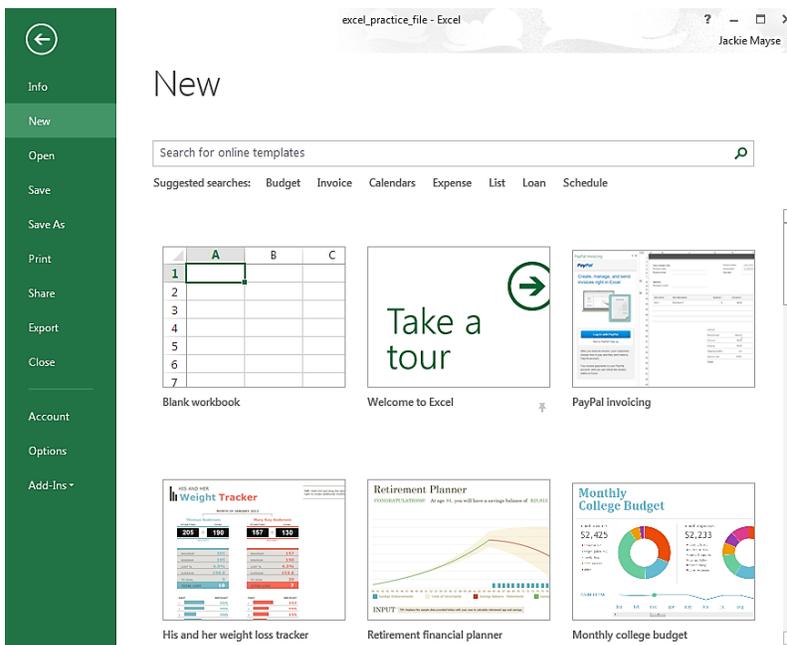
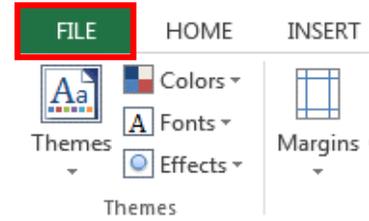


## Templates

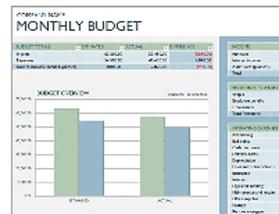
Excel 2019 provides templates, which are ready-made worksheets for common uses. These predesigned templates contain standard or boilerplate text that can be modified to fit the user's needs. Templates are designed with the formatting and pre-defined formulas. With templates, you don't need to know how to do the math, or even how to write formulas—these are already integrated into the spreadsheet. Use the templates automatically installed with Excel 2019 or download free templates from Office.com, the Microsoft Office website. Excel templates use the filename extension .xltx (as opposed to .xlsx for an Excel workbook).

### Create a new workbook from a template:

1. Go to **File** tab → **New**
2. The **New** panel appears in the **Backstage** view



3. Several templates will appear next to and below the Blank workbook option. **Select a template to review it.**
4. A preview of the template will appear, along with additional information on how the template can be used. **Click Create to use the selected template.**
5. Customize and edit the template as needed
6. Use **Save As** to save the file with a new name



### Monthly business budget

Provided by: [Microsoft Corporation](#)

Track your company's expenses and income with this Excel template. Gives a separate summary of your top 5 expenses as well as allowing comparison of estimated versus actual expenses.

Download size: 42 KB

Rating: ★ ★ ★ ★ ☆ (74 Votes)

