

Lab 2 – Advanced Excel Introduction

LAB 2 QUICK VIEW

- At the bottom of the excel page, you can switch between and rename TABS
- The “Paste” command will copy formulas, whereas the “Paste Special – Values” will only copy the numbers appearing in a cell.
- Additional excel formulas are:

=SUM(X:Y)	Add all cells from cell X to cell Y
=AVERAGE(X:Y)	Calculate the average (mean) of cells X to Y
=COUNT(X:Y)	Count how many filled cells are between cells X and Y
=VAR(X:Y)	Calculate the sample variance of cells X to Y
=STDEV(X:Y)	Calculates the sample standard deviation of cells X to Y
=MIN(X:Y)	Find the minimum value of cells X to Y
=MAX (X:Y)	Find the minimum value of cells X to Y
=MEDIAN(X:Y)	Find the median (middle number) of cells X to Y
=PERCENTILE(X:Y,K)	Find the K-TH percentile of cells X to Y
=LN(X)	Find the natural log of X
=SQRT(X)	Find the square root of X
=SIN(X)	Find the sine of X
=COS(X)	Find the cosine of X
=ABS(X)	Find the absolute value of X (ignore any – sign)
=INT(X)	Round down to the nearest integer
=ROUND(X,0)	Round to the nearest integer

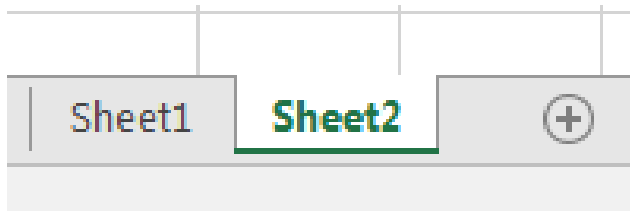
**More formulas can be found under the “Formulas” menu at the top of excel. The help feature is very useful in explaining formulas.

**Note: the (X:Y) of each formula can be filled out by clicking and dragging to highlight the cells you want to use.

- When Printing excel spreadsheets, it is important to:
 - Insert Gridlines
 - Select either “Portrait” or “Landscape Orientation”
 - Adjust margins as needed
 - Preview before printing

A) Excel Tabs

Often when dealing with large amounts of data in excel, all the data may not be on one sheet, but you still want it easily accessible. At the bottom of the excel page, you will notice that a TAB with the title “Sheet 1”. By pressing the + button beside it, you can create another excel sheet. By right-clicking on the tab title, you can rename it.



B) Copying Between Tabs

You can copy data between tabs by clicking on one tab, selecting and copying or cutting cells, then selecting another tab and pasting. Remember:

- Selecting “Paste” will paste whatever is in the formula box above the spreadsheet. If a formula is there, the cell references of the pasted formula may change unless \$’s are used.
- Selecting “Paste Special – Values” will paste the exact numbers in the cells, and ignore any formulas used to create these numbers.
- Keep in mind that if you paste between tabs then make changes, these changes will NOT automatically update between tabs. If you make changes in one tab, these changes must be manually copied onto other tabs.

C) More Excel Formulas

A longer list of useful formulas in excel is:

=SUM(X:Y)	Add all cells from cell X to cell Y
=AVERAGE(X:Y)	Calculate the average (mean) of cells X to Y
=COUNT(X:Y)	Count how many filled cells are between cells X and Y
=VAR(X:Y)	Calculate the sample variance of cells X to Y
=STDEV(X:Y)	Calculates the sample standard deviation of cells X to Y
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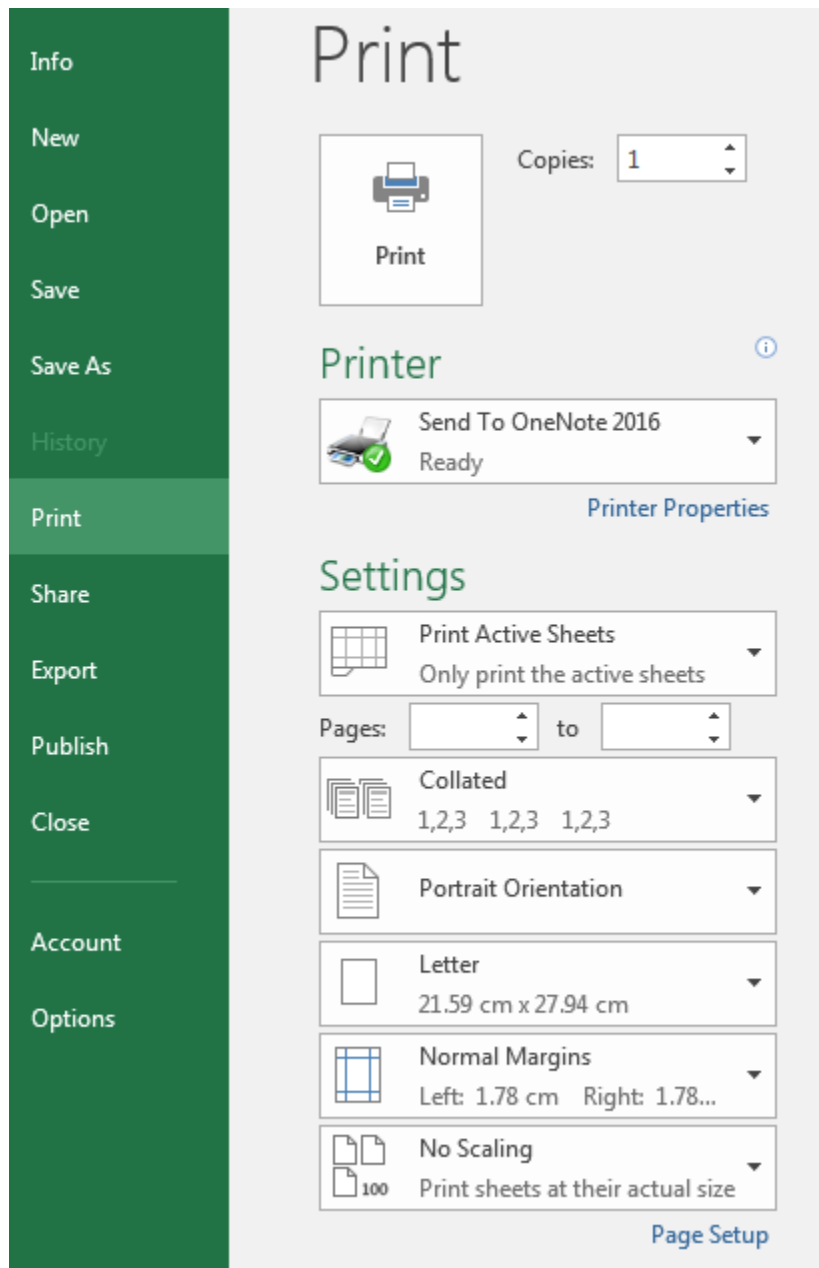
**Note: the (X:Y) of each formula can be filled out by clicking and dragging to highlight the cells you want to use.

D) Printing in excel

If you plan to print the excel spreadsheet, you should first format cells to show gridlines (as seen in lab 1). To print, select the “File” menu at the top of the screen, then select print. Word 2016 shows a preview of what will be printed. (In other versions this may need to be selected.)

Two important options in printing are “Orientation” and “Margins”. “Portrait” Orientation prints on a normal page so that top to bottom is longest. It is best for long spreadsheets. “Landscape” Orientation prints a normal page so that left to right is longest. It is best for wide spreadsheets.

If important columns are cut off in your print preview, you have the option of either adjusting your printing margins or changing the width of your columns.



Econ 299 Practice Lab 2:

- A) In addition to the price indexes that you calculated in lab 1, you now have the following fruit and vegetable expenditures for 3 families (if you are entering this data by hand, enter it in a new tab):

	A	B	C	D
1		Fruit and Vegetable Expenditure		
2	Year	Smith	Teuber	Batman
3	2019	\$145.00	\$180.00	\$20.00
4	2020	\$112.00	\$191.00	\$18.00
5	2021	\$151.00	\$172.00	\$16.00
6	2022	\$139.00	\$160.00	\$55.00
7				

- B) Create a new column before column A. Insert the text “Average” and “Total” in cells A7 and A8. Calculate average and total expenditure for each family.
- C) In column F, copy the appropriate price indexes on the other lab, and insert an appropriate title. (Don’t forget to “Paste Special – Values”). Format these cells so that they show two decimal places.
- D) In columns G to I, calculate the real expenditure for each of the three families. For example, based on the formula below, the formula for cell G3 will be **=C3/\$F3*100**. Make sure to add appropriate titles. (The \$ makes sure that when you copy the formula, it will always refer to the price indexes in column F.)

$$\text{Real} = \frac{\text{Nominal}}{\text{Price Index}} 100$$

- E) In columns J to L, calculate nominal expenditure growth using the following formula. For example, the formula for cell J4 will be **=(C4-C3)/C3*100**. Make sure to add appropriate titles.

$$\text{Growth} = \frac{X_t - X_{t-1}}{X_{t-1}} 100$$

- F) In columns M to O, calculate real expenditure growth using the following log formula. For example, the formula for cell M4 will be **=(LN(G4)-LN(G3))*100**. Make sure to add appropriate titles.
- G) Format cells to show dollars or numbers as needed, then use the print command to preview your spreadsheet if it was printed using the landscape option.

Lab 2 Practice Answers:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1			Fruit and Vegetable Expenditure				Real Expenditure				Nominal Growth (%)			Real Growth (Logs, %)		
2		Year	Smith	Teuber	Batman	Price Index (2020=100)	Smith	Teuber	Batman	Smith	Teuber	Batman	Smith	Teuber	Batman	
3		2019	\$145.00	\$180.00	\$20.00	85.19	\$170.20	\$211.29	\$23.48							
4		2020	\$112.00	\$191.00	\$18.00	100.00	\$112.00	\$191.00	\$18.00	-22.76	6.11	-10.00	-41.85	-10.09	-26.56	
5		2021	\$151.00	\$172.00	\$16.00	90.65	\$166.57	\$189.73	\$17.65	34.82	-9.95	-11.11	39.69	-0.67	-1.97	
6		2022	\$139.00	\$160.00	\$55.00	78.63	\$176.77	\$203.48	\$69.95	-7.95	-6.98	243.75	5.94	6.99	137.70	
7	Average		\$136.75	\$175.75	\$27.25											
8	Total		\$547.00	\$703.00	\$109.00											