

<i>Excel Functions:</i>	<i>Syntax</i>	<i>Definition/Description</i>
+	=C5+D5	<i>Adds</i> the values found in cells C5 and D5.
-	=C5-D5	<i>Subtracts</i> ...
*	=C5*D5	<i>Multiplies</i> ...
^	=C5^2	Creates the <i>square</i> of the value in C5.
\$	\$C\$5 or C\$5	The dollar sign locks cell addresses so that they do not change when you copy the cell. Use of \$ before both the column address and row address (eg. \$C\$5) would lock both parts of the address. Using a single \$ would lock only part of a cell address (eg. C\$5 would allow the column address to change but fix the row address).
sqrt	=sqrt(D5)	Creates the <i>square root</i> of the value in found in cell D5.
sum	=sum(a2:a31)	Determines the <i>sum</i> of the data values in column A, rows 2 through 31.
count	=count(\$C\$2:\$C\$250)	Tells you how many data values are in the range C2 through C250. If there were missing values (empty cells) these would not be counted.
countif	=countif(\$C\$2:\$C\$250,F3)	<i>Counts</i> all the data values in the range C2 through C250, that satisfy the value found in cell F3. You could just enter a number where the cell reference F3 appears or you could enter a condition, in quotations, such as: "<=15000." This would count all observed values that satisfy the condition "less than or equal to 15000."
average	=average(A2:A31)	Returns the <i>mean</i> or average of the data values in column A, rows 2 through 31.
stdevp	=stdevp(a2:a31)	Determines the <i>population standard deviation</i> for the data in column A, rows 2 through 31.
stdev	=stdev(b10:b94)	Determines the <i>sample standard deviation</i> for the data values in column B, rows 10 through 94.
varp	=varp(c3:c103)	Determines the <i>population variance</i> for the data in column C, rows 3 through 103.
var	=var(c3:c103)	Determines the <i>sample variance</i> for the data in column C, rows 3 through 103.
median	=median(c3:c103)	Determines the <i>median</i> for the data given in column C, rows 3 through 103. This is the same as quartile 2.
quartile	=quartile(b10:b94,1)	Determines the <i>first quartile</i> for the data given in column B, rows 10 through 94. The second parameter that is included determines the quartile number, 1, 2, or 3. Excel does not do quartiles that way we require in ResEc 211 and ResEc 312.

binomdist	=binomdist($x, n, p, cumulative$)	This function is used to calculate binomial probabilities or cumulative probabilities. The values required are: x – the number of successes; n – the number of trials; and p – the probability of success. Use the word FALSE for the <i>cumulative</i> choice, which returns the probability – not the cumulative probability. If you want cumulative probabilities, enter TRUE.
combin	=combin(n, x)	Combinations: Gives the number of different ways that you can get x successes in n trials.
fact	=fact(number)	Gives the factorial for the “number.” Eg., the function “=fact(5)” returns a value of 120.
normdist	=normdist($x, \mu, \sigma, cumulative$)	Gives the probability (if <i>cumulative</i> =TRUE) of a normally distributed variable X having a value less than or equal to the value x , with a mean of μ , and a standard deviation of σ .
normsdist	=normsdist(z-value)	Gives the probability of a z-score less than the given z-value.
intercept	=intercept($y\ range, x\ range$)	Gives the value for the intercept of a regression line for the y-values given in “y range” and the x-values given in “x range.”
slope	=slope($y\ range, x\ range$)	Gives the value for the slope of a regression line for the y-values given in “y range” and the x-values given in “x range.”
correl	=correl($y\ range, x\ range$)	Gives the value for correlation coefficient that tells us how closely associated are the y-values given in “y range” and the x-values given in “x range.”
covar	=covar($y\ range, x\ range$)	Gives the value for covariance between two variables, x and y . The covariance simply tells whether two variables are positively linearly associated or negatively linearly associated.
tinv	=tinv(<i>probability, degrees of freedom</i>)	Gives the t-value from the t-table used for a critical value in a confidence interval, or a two-tail hypothesis test where alpha is the combined area in both tails . Note: Excel will prompt you for a “probability” – that’s α .
Natural log	=ln(x)	Gives the natural log for the variable x .

Other Excel Goodies we've used:

On the **Home** ribbon:

- ◆ Format your cells (general, number, currency, etc.), but you can do this more quickly by right-clicking any cell.
- ◆ Text formatting: font type, font size, bold, italics, underline, borders, highlighting, and text color.
- ◆ Merge and center.
- ◆ Change number of decimals.
- ◆ Auto Sum, the Σ – double click this to sum the column of numbers above your blank cell.

On the **Insert** ribbon:

- ◆ Charts (colorful little chart icons) – for histograms, bar charts, XY Scatter diagrams, Line graphs, etc.
- ◆ **Text boxes** to annotate your spreadsheets.

On the **Data** ribbon:

- ◆ Sort your data set (remember to always sort all variables in the data set together).
- ◆ Text to columns – helps when copying data in from website.
- ◆ **Data Analysis** – has a number of statistical functions we have used – for sample data.

On the **View** ribbon:

- ◆ *Toolbars* – I like having the Drawing toolbar appear at the bottom. It has lines, textboxes, etc. that you can use to adorn your worksheets.