Excel Formulas Cheat Sheet

Basic Formulas

Formula	Structure	Explanation
AVERAGE	=AVERAGE(A2:A10)	Returns a mathematical average of a given cell range
COUNT	=COUNT(A2:A10)	Returns the count of the numbers in given cell range
MAX	=MAX(A2:A10)	Finds the largest value in a given cell range
MEDIAN	=MEDIAN(A2:A10)	Returns the median value, or middle value, in a given cell range
MIN	=MIN(A2:A10)	Finds the smallest value in a given cell range
SUM	=SUM(A2:A10)	Totals numbers in a given cell range

Cell range A2:A10 is used above to indicate that each formula uses a cell range as it arguments

Time Formulas

Formula	Structure	Explanation
TODAY	=TODAY()	Volatile – takes no arguments – returns today's date
NOW	=NOW()	Volatile – takes no arguments – returns today's date and time
DATEDIF	=DATEDIF(Start Date, End Date, Unit)	Returns the number of years, months or days between two dates • Start Date – date furthest in the past • Unit could be "Y" for years, "M" for months or "D" for days • Units must be in double quotes • This formula is NOT in the function library
YEAR	=YEAR(Date)	• Returns the year portion of date • Example =YEAR(7/16/2005) would return 2005
MONTH	=MONTH(Date)	• Returns the month portion of date • Example =MONTH(7/16/2005) would return 7
DAY	=DAY(Date)	• Returns the day portion of date • Example =DAY(7/16/2005) would return 16

Use a time formula and get an answer you didn't expect? If you got a date and were expecting a number, remember to change the formatting from date to number. If you got a number and were expecting a date, change the formatting to date.

Excel Formulas Cheat Sheet

Logical Formulas

Formula	Structure	Explanation

IF	=IF(Logical Test, TRUE, FALSE)	• Evaluates the statement in the logical test to determine if it is TRUE or FALSE
		• A **Logical test** compares the value of one cell to another, or a cell value to a constant value, using a comparison operator such as:
		  ○ Equal → =
		  ○ Less than → <
		  ○ Greater than → >
		  ○ Less than or equal to → <=
		  ○ Greater than or equal to → >=
		  ○ Not equal to → <>
		• **TRUE** – this part of the IF function will only execute when the logical test is TRUE
		• **FALSE** – this part of the IF function will only execute when the logical test is FALSE
		• Both TRUE and FALSE can be a word, a formula or a constant value
		• To return a blank cell use two double quotes → ""

OR	=OR(Logical Test 1, Logical Test 2, ...)	• This formula can only return TRUE or FALSE • Only one test in the group must return TRUE for the formula to return TRUE
AND	=AND(Logical Test 1, Logical Test 2, ...)	• This formula can only return TRUE or FALSE • Only one test in the group must return FALSE for the formula to return FALSE

Lookup Formulas

Formula	Structure	Explanation

VLOOKUP	=VLOOKUP (Lookup Value, Table Array, Col Index, Range Lookup)	• **Lookup Value** - What the function is looking for in the table array
		• **Table Array** - The table defined as a cell range
		• **Col Index** - The column in the table that forms the return
		• **Range lookup** - False for exact match, True or blank for near match
		• Notes:
		  ○ A vlookup can only search vertically through the left most column of a table array for near or exact matches
		  ○ In most cases you will want to use absolute cell referencing when indicating a table array
		  ○ If you omit the Range Lookup, Excel will assume "True" and look for a near match

Excel Formulas Cheat Sheet

Financial Formulas

Formula	Structure	Explanation

PMT	= PMT(rate, nper, pv, [fv], [type])	• **rate** – Annual Percentage Rate
		  ○ Divide yearly rate by 12 months
		  ○ REQUIRED
		• **nper** – number of periods
		  ○ How many months are in the loan? (12 months/year) * length of loan in years = length of loan in months
		  ○ REQUIRED
		• **pv** – present value
		  ○ amount of loan – this is the amount that was borrowed
		  ○ REQUIRED
		• [**fv**] and [**type**] are in square brackets because they're *optional* arguments.
		  ○ fv – future value - $0 if the loan is paid if full
		  ▪ Excel assumes zero if omitted
		  ○ type –
		  ▪ 0 (zero) means the payments are due at the end of each period,
		  ▪ 1 means they're due at the beginning
		  ▪ Excel assumes your payments are due at the end of the period if omitted

Excel Formulas Cheat Sheet

Statistical Formulas

Formula	Structure	Explanation

SUMIF	= SUMIF(range, criteria, [sum_range])	• SUMIF will return at total based on one criteria
		• **Range** - Required. The range of cells that you want evaluated by criteria.
		• **Criteria** - Required.
		• The criteria in the form of a number, expression, a cell reference, text, or a function that defines which cells will be added.
		• For example, criteria can be expressed as 32, ">32", B5, "32", "apples", or TODAY().
		• Important: Any text criteria or any criteria that includes logical or mathematical symbols must be enclosed in double quotation marks ("). If the criteria is numeric, double quotation marks are not required.
		• **Sum_Range** Optional.
		  ○ The actual cells to add, if you want to add cells other than those specified in the range argument.
		  ○ If the sum_range argument is omitted, Excel adds the cells that are specified in the range argument (the same cells to which the criteria is applied).

SUMIFS	=SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)	• SUMIFS will return at total based on more than one criteria
		• Sum_Range - The range of cells to sum
		• Criteria_range1 – Required
		  ○ The range that is tested using Criteria1
		• Criteria1 – Required
		  ○ The first value tested for – this must be a match to be included in the total
		• Criteria_range2 – Optional
		  ○ The range that is tested using Criteria2
		• Criteria2 – Optional
		  ○ The second value tested for – this must be a match to be included in the total
		• *And so on…*

Excel Formulas Cheat Sheet

Formula	Structure	Explanation
COUNTIF	=COUNTIF(range, criteria)	• Answers the question "How many of something (criteria) exist within specific set of cells (range)? • =COUNTIF(Where do you want to look?, What do you want to look for?) • Range – Required – Sets cells to be included in the count • Criteria – Required – Tells formula what to look for

COUNTIFS	=COUNTIFS(criteria_range1, criteria1, [criteria_range2, criteria2]…)	• criteria_range1 – Required.
		  ○ The first range in which to evaluate the associated criteria.
		• criteria1 – Required.
		  ○ The criteria in the form of a number, expression, cell reference, or text that define which cells will be counted. For example, criteria can be expressed as:
		  ▪ 32,
		  ▪ ">32",
		  ▪ B4,
		  ▪ "apples", or
		  ▪ "32"
		• criteria_range2, criteria2, …
		  ○ Optional.
		  ○ Additional ranges and their associated criteria. Up to 127 range/criteria pairs are allowed.
		• Important:
		  ○ Each additional range **must have the same number of rows and columns as the criteria_range1 argument.**
		  ○ The ranges do not have to be adjacent to each other

Excel Formulas Cheat Sheet

Formula	Structure	Explanation

AVERAGEIF	=AVERAGEIF(range, criteria, [average_range])	• Returns the average (arithmetic mean) of all the cells in a range that meet a given criteria
		• Range – Required.
		  ○ One or more cells to average, including numbers or names, arrays, or references that contain numbers.
		• Criteria – Required.
		  ○ The criteria in the form of a number, expression, cell reference, or text that defines which cells are averaged. For example, criteria can be expressed as:
		  ▪ 32,
		  ▪ ">32",
		  ▪ B4,
		  ▪ "apples", or
		  ▪ "32"
		• Average_range – Optional.
		  ○ The actual set of cells to average.
		  ○ If omitted, range is used

Excel Formulas Cheat Sheet

Formula	Structure	Explanation

AVERAGEIFS	= AVERAGEIFS(average_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)	• Returns the average (arithmetic mean) of all cells that meet multiple criteria
		• Average_range – Required
		  ○ One or more cells to average, including numbers or names, arrays, or references that contain numbers.
		• Criteria_range1 – Required, subsequent criteria_ranges are optional (up to 127 ranges)
		• criteria_range2, criteria_range3,… – Optional
		• Criteria1 – Required, subsequent criteria are optional
		  ○ Criteria can be in the form of a number, expression, cell reference, or text that define which cells will be averaged. For example, criteria can be expressed as:
		  ▪ 32,
		  ▪ ">32",
		  ▪ B4,
		  ▪ "apples", or
		  ▪ "32"
		• criteria2, criteria3,...
		• If you have a Criteria_Range, you must have a corresponding Criteria