



ULTIMATE FORMULA CHEAT SHEET

Quantrix is like a multidimensional spreadsheet with built-in named ranges and lookups. Most functions are the same as spreadsheets, but with a few important differences you'll need to know to build epic, scalable models.

Key differences vs. spreadsheets

- Don't worry about cell coordinates (A4, J23). Everything is referenced like named ranges.
- Because of this, all data is always pivotable; orientation does not dictate formulas.
- Formulas are range-based. It's typical to have a *formula:cell* ratio of 1:100 or 1:1000.

Important concepts

- matrix** *a table of data*
- category** *also called a dimension; a set of related objects / items*
- item** *a single item (row or column); items are members of a category*

BEGINNER TIP Scan your existing spreadsheet for *repeating* rows, columns, or table structure (such as repeating line items on a P&L for each entity in a corporation). Those repeating line items are **items** that would make up a P&L **category**, perhaps on a P&L **matrix**. Months or years would likely belong to another **category** in the same **matrix**. Typically, a formula can be written **per item** or even **per category** (rather than *per cell*).

TOP QUANTRIX FUNCTIONS

1 SELECT()

SELECT (value_list, key_list, lookup_value)
spreadsheet twin: XLOOKUP()

Use it to find corresponding matches in an array of values
SELECT() can be combined with other functions to return sums or other calculations.
TIP the inputs of SELECT() are the same as XLOOKUP() but in exactly the reverse order.

2 Using As

[any function] using [Category1 or Range1] as [current matrix Category]
spreadsheet twin: nested XLOOKUP()

Use it to find corresponding matches in an array of values
Using As is shorthand for the SELECT() function. You can have multiple Using As clauses in one formula and the order of the clauses does not matter.
TIP "Lookup [return_array] using [lookup_value1] as the coordinate for [lookup_array1], [lookup_value2] as [lookup_array2]"

3 SUM() + structure

SUM (sum_range)
spreadsheet twin: SUMIF(s) as a lookup function

Linked structure is the concept of using the same categories of items across multiple places in the model. Drag & drop categories to different matrices to link them together and establish automatic lookups in the background.



Use it to calculate values based on common dimensions across the model where you need to lookup matching items
SUM() with linked structure will ensure your formula returns all the matches for each respective item.
TIP beginners sometimes write more formulas than they need. Do your formulas look *really* similar? If categories referenced in your formulas are linked, you can replace the formulas with just one since Quantrix does the lookups by item automatically.

4 CASE() & SWITCH()

CASE (test_value, case1, value 1, [case2, value2], ... [default_value])
spreadsheet twin: SWITCH()
SWITCH (condition1, value 1, [condition2, value2], ... [default_value])
spreadsheet twin: IFS() + SWITCH(), others

Use it to return values based on comparing one test value/expression (CASE()) or multiple different test values (SWITCH()).
SWITCH() is extremely powerful when you need to compare different test values depending on changing conditions.
TIP checking one test value for multiple cases? Use CASE() instead of nested IFs. Comparing multiple test values in different locations/situations? Use SWITCH().

5 VALUEAT()

VALUEAT (list, index)
spreadsheet twin: CHOOSE(), OFFSET(), or INDEX()

Use it to return a value at a specific index of a list.
VALUEAT() allows you to specify a range or array and the index can be a value or an expression.
TIP VALUEAT() can be extremely useful for finding a value at a specific point in time, such as returning the forecasted revenue 9 months from now.

6 SUBLIST()

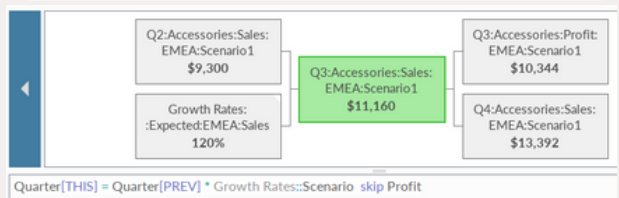
SUBLIST(list, from, to)
spreadsheet twin: INDEX(), OFFSET(), others

Use it to return a range of values based on a starting offset and ending offset.
SUBLIST() allows you dynamically return a list of values. The offsets can be hard-coded or expressions.
TIP AVERAGE(SUBLIST()) is ideal for calculating rolling averages.

Auditing and troubleshooting formulas can be challenging in complex models. Use the **DEPENDENCY INSPECTOR** to evaluate any cell. The flow chart shows how the active cell is connected to precedents and dependents.

The formula (if any) associated with the cell is displayed underneath. Hover over it to evaluate each step of the calculation and see the intermediate values.

Bonus Feature: DEPENDENCY INSPECTOR



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Quantrix tips

created by Lyndsey Weber

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