



An Extended Guide · No. 1927

Excel Formulas You'll Actually Use — Sum, Average & Percent

The handful of formulas a household needs, and how to fix the errors

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★ You need about five formulas, not five hundred

Excel has hundreds of formulas, and you can happily ignore nearly all of them. For home use, SUM, AVERAGE, a bit of multiplying for percentages, and knowing what a couple of error messages mean will carry you a very long way.

The few formulas worth knowing

People think Excel formulas are a dark art. The truth is that a handful of simple ones cover almost everything a household needs — adding, averaging, and figuring percentages — and they're friendlier than they look.

I'm Bill, from Bill's Home Tech in Portage County. I'll show you the small set of formulas that actually earn their keep at home, explain them in plain English, and teach you to read the error messages so they stop being scary.

Every formula starts the same way, with an equals sign, and once you see the pattern you'll find them almost logical. No math background needed — just a willingness to try.

The whole guide, on one page

If these stick, you've got the formulas a home ever needs.

- ❑ Every formula begins with an equals sign (=).
- ❑ =SUM adds a range of cells: =SUM(B2:B10).
- ❑ =AVERAGE finds the average: =AVERAGE(B2:B10).
- ❑ For a percentage, divide and the result is a fraction you format as a percent.
- ❑ Copy a formula down a column and it adjusts for each row automatically.
- ❑ Error messages like #DIV/0! and #VALUE! are clues, not disasters — each has a simple cause.

✓ Equals first, always

If you remember one thing: start any calculation cell with =. That single character tells Excel 'do math here.'

How a formula works, in plain English

Before the specific formulas, let's understand the pattern they all share. Learn this once and they all make sense.

A formula is just an instruction you type into a cell, starting with an equals sign. You can do simple math right away: click a cell, type `=2+2`, press Enter, and it shows 4. More usefully, you can point at other cells: `=B2+B3` adds whatever's in those two cells, and updates if you change them.

That pointing-at-cells idea is the heart of Excel. Instead of typing numbers into your math, you refer to the cells that hold them, so when a number changes, every formula using it recalculates by itself. That's the whole magic.

✓ Point at cells, don't retype numbers

Rather than `=1500-1200`, use `=B2-B3` (pointing at the cells). Then when a figure changes, the answer updates on its own — no re-doing the math.

SUM — adding things up

The most useful formula of all. SUM adds a whole stretch of cells for you.

To add the numbers in cells B2 through B10, type =SUM(B2:B10) and press Enter. The colon means 'through,' so B2:B10 means 'B2 all the way down to B10.' Excel adds them and shows the total, updating whenever any of those numbers change.

You don't even have to type it: the AutoSum button on the Home ribbon writes the SUM formula for you — click the cell below your numbers, click AutoSum, press Enter. But now you know what it's actually doing behind the scenes.

✓ The colon means 'through'

B2:B10 is 'B2 through B10.' That little colon is how you tell Excel to work on a whole range of cells at once.

AVERAGE — the typical amount

AVERAGE tells you the typical value across a set of numbers — handy for all sorts of household questions.

Type `=AVERAGE(B2:B13)` and Excel adds those numbers and divides by how many there are, giving the average. Point it at your twelve monthly electric bills and you instantly see your average monthly cost — far easier than doing it by hand.

It works just like SUM: the equals sign, the word AVERAGE, and a range in parentheses. Once you've used SUM, AVERAGE is the same move with a different word — which is true of most Excel formulas.

✓ Same pattern, different word

Notice SUM and AVERAGE have the identical shape: `=WORD(range)`. Learn that shape and you can guess how dozens of formulas are typed.

Percentages without the headache

Percentages make people nervous, but in Excel they come down to simple division plus a formatting click.

A percentage is just a part divided by a whole. To find what percent your groceries are of your total spending, type `=B5/B20` (groceries divided by total). You'll get a decimal like 0.15. Then click the percent (%) button on the Home ribbon, and Excel shows it as 15% — the friendly version of the same number.

To add a percentage, like a tip or tax: multiply. For 15% more, `=B2*1.15`. For 15% off, `=B2*0.85`. These two tricks — divide to find a percent, multiply to apply one — handle nearly every household percentage you'll meet.

✓ Divide to find, multiply to apply

Finding what percent something is? Divide. Adding or removing a percent? Multiply. Those two moves cover tips, taxes, discounts, and more.

Copying a formula down a column

Here's a time-saver that feels like a trick: write a formula once and copy it down a whole column, and it adjusts for each row.

- ❑ Write your formula in the first cell — say `=B2*C2` to multiply quantity by price.
- ❑ Click that cell once to select it.
- ❑ Grab the little square at its bottom-right corner (the 'fill handle').
- ❑ Drag it down the column, or just double-click it, to copy the formula down.
- ❑ Each row now has its own version — `=B3*C3`, `=B4*C4` — automatically.

Excel is clever enough to shift the cell references as it copies, so row three uses row three's numbers, and so on. You write the logic once and Excel applies it to every row — a huge saver on any list with a calculation.

★ The fill handle is a favorite trick

That little drag-to-copy corner delights everyone when they first see it. If you'd like me to show you, it's a quick, satisfying lesson. Call (330) 200-8042.

What those error messages mean

An error message isn't a scolding — it's Excel telling you exactly what tripped it up. Here's how to read the common ones.

You see	It means
#####	Column too narrow
#DIV/0!	Dividing by zero or empty
#VALUE!	Text where a number's needed
#NAME?	A typo in the formula
#REF!	A cell it used was deleted

None of these hurt anything; they just mean Excel couldn't finish the calculation and wants your help. Once you know what each points to, fixing it is usually a ten-second job — which is exactly what the next pages cover.

✓ **Errors are clues, not catastrophes**

An error in a cell affects only that cell. Your other numbers are fine. Read the message, fix the one thing it names, and you're back in business.

Fixing the common errors

Here's the quick cure for each of those messages. None is as frightening as it first looks.

- **#####**: the number's fine — the column's just too narrow. Drag the column edge wider.
- **#DIV/0!**: you're dividing by zero or an empty cell. Check the cell you're dividing by actually has a number.
- **#VALUE!**: there's text where a number belongs — maybe a stray letter or space in a cell. Clear it and retype the number.
- **#NAME?**: a typo in the formula — 'AVERGE' instead of 'AVERAGE,' say. Fix the spelling.
- **#REF!**: the formula pointed at a cell that got deleted. Rewrite the formula to point at the right cells.

✓ Click the cell and read the formula

To fix any error, click the cell and look at the formula bar near the top — it shows the actual formula, where the problem hides. Nine times in ten the fix is obvious once you see it.

Two kinds of readers, two sets of needs

How many formulas you need depends on what you're doing. Find yourself below.

If you just want to add things up

Budgets, bills, a donation tally. You mostly need totals and maybe an average — the gentle end of formulas.

- SUM and the AutoSum button cover almost everything.
- AVERAGE handles 'what's my typical monthly...' questions.
- You can skip percentages until you actually need one.
- Point formulas at cells so totals update themselves.

If you do a bit more figuring

A small side business, a detailed budget, tracking a goal. You'll want percentages and copied formulas too.

- Use division and the % button for percentages.
- Multiply to add tax, tips, or discounts.
- Copy a formula down a column with the fill handle.
- Learn to read error messages so nothing stops you.

★ I'll teach just the formulas you need

No need to learn Excel's whole formula library — just the few that fit what you actually do. Tell me your task and I'll teach exactly those. Call (330) 200-8042.

A few more that occasionally help

Beyond SUM, AVERAGE, and percentages, a couple of others are worth knowing when you need them.

- **=MAX(range)** finds the biggest number — your highest bill, your best month.
- **=MIN(range)** finds the smallest — your cheapest month, your lowest reading.
- **=COUNT(range)** counts how many cells have numbers in them.
- **=COUNTA(range)** counts how many cells have anything (text or numbers) — handy for 'how many people on my list.'

These follow the exact same shape as SUM — equals sign, the word, a range in parentheses — so you already know how to type them. Reach for them when a question fits; ignore them otherwise.

✓ Same shape, new question

MAX, MIN, COUNT — all the familiar =WORD(range) pattern. If you can write SUM, you can write these. They just ask different questions of the same numbers.

Trusting your formulas

A formula is only as right as what you told it to do. A couple of habits keep you confident the answers are correct.

After writing a formula, sanity-check it against a rough guess. If `=SUM(B2:B10)` gives a total that's wildly off from what you'd expect, you may have included a wrong cell or missed one. Click the cell to see exactly which range it's adding, highlighted on the sheet.

When you click a cell with a formula, Excel outlines the cells it's using in color — a lovely way to confirm it's grabbing the right numbers. If the outline doesn't cover what you meant, adjust the range and you're set.

✓ Does the answer feel right?

Always give a formula's result the sniff test against a rough mental estimate. Excel does the arithmetic perfectly, but only on the cells you point it at — so make sure those are the right ones.

Common mistakes, and easy fixes

Most formula frustration comes from a short list of slip-ups. Here they are, with cures.

- **Forgetting the equals sign** — without it, Excel treats your formula as plain text. Start with =.
- **Typing numbers into formulas** instead of pointing at cells — then the answer won't update when figures change.
- **Wrong range** — including a blank or a heading. Click the cell to see what it's actually using.
- **Text mixed with numbers** — a stray letter causes #VALUE!. Keep number cells purely numeric.
- **Panicking at an error** — it's a clue. Read it, fix the one cause, move on.

✓ The formula bar shows the truth

Click any cell and the formula bar up top reveals its actual formula. That's your window into what Excel is really doing — and where almost every mistake becomes visible.

If this still feels intimidating

You can get a great deal done with almost no typed formulas at all. Here's the confidence-building route.

The AutoSum button writes SUM and AVERAGE for you — just click it and pick. The percent button formats percentages. Between those two buttons, you can total, average, and show percentages without typing a single formula by hand.

As you watch what those buttons produce in the formula bar, the typed versions start to make sense, and one day you'll type one yourself without thinking. Let it happen gradually — there's no rush and no test.

★ We'll build your confidence slowly

Formulas click for people faster than they expect, especially with a patient guide. We'll start with the buttons and ease into typing. Call (330) 200-8042.

These work in free spreadsheets too

Don't have Excel? Every formula here works the same in the free programs.

Google Sheets and LibreOffice Calc use the very same formulas — =SUM, =AVERAGE, the percent trick, the fill handle, all of it. The buttons sit in slightly different places, but what you type is identical.

So whether you own Excel or use a free program, this guide applies directly. Our free-ways-to-write and LibreOffice guides help you get set up at no cost if you need to.

✓ The formulas are universal

=SUM and friends are a shared language across spreadsheets. Learn them once and they serve you in Excel, Google Sheets, or LibreOffice alike.

Formulas are more friend than foe

If 'formulas' is a word that makes you want to close the laptop, give me a moment to change your mind.

The ones you'll ever use at home are few, simple, and share a single pattern. They exist to save you arithmetic, not to test you. And the error messages that look so alarming are really just Excel asking a polite question about one cell.

Learn SUM, dabble with AVERAGE and percentages, and you've got everything a household needs. Everyone I've taught started wary and ended up rather enjoying watching the numbers add themselves.

★ A gentle formula lesson is a pleasure

There's real delight in seeing Excel do your sums for you. I'd be glad to walk you through the few you need, patiently. Call (330) 200-8042.

Questions to ask yourself

A few answers point you to the formulas you actually need.

Q: Do I mostly just need totals?

Then SUM (or AutoSum) is nearly all you need. Add AVERAGE for 'typical' questions.

Q: Do I work with percentages?

If yes, learn the divide-to-find and multiply-to-apply tricks plus the % button. If not, skip them for now.

Q: Do I repeat a calculation down a list?

Then the fill handle — copying a formula down — will save you lots of time.

Q: Am I seeing error messages?

Each one names its cause. Match it to the fix in this guide and it's usually a quick repair.

✓ Learn only what your task needs

There's no prize for knowing formulas you'll never use. Learn the two or three your real work calls for, and let the rest be.

A few more worth answering

These come up as folks start writing formulas.

Q: Why is my formula showing as text, not a result?

You likely left off the equals sign, or the cell is formatted as text. Make sure it starts with = and the cell is a normal (General) format.

Q: How do I see what a formula is doing?

Click the cell and read the formula bar at the top; Excel also highlights the cells the formula uses, right on the sheet.

Q: What does #DIV/0! mean?

You're dividing by zero or by an empty cell. Put a number in the cell you're dividing by, and the error clears.

Q: Can I just use the buttons instead of typing?

Yes — AutoSum writes SUM and AVERAGE, and the % button handles percentages. You can do a lot with no typed formulas at all.

★ Stuck on a formula?

Call or text me at (330) 200-8042. Formulas are very teachable one-on-one, and I'll get yours working in minutes.

The formulas, recapped

Here's the whole useful set in one place.

- ❑ Start every formula with an equals sign (=).
- ❑ =SUM(B2:B10) adds a range; AutoSum writes it for you.
- ❑ =AVERAGE(B2:B10) finds the typical value.
- ❑ Divide to find a percent; multiply (by 1.15 or 0.85) to apply one.
- ❑ Copy a formula down with the fill-handle corner.
- ❑ Read error messages as clues and fix the one cell they name.

That's genuinely the whole kit a household needs. Point formulas at cells, let them update themselves, and you'll have Excel doing your arithmetic reliably and tirelessly.

✓ Five formulas, endless uses

SUM, AVERAGE, percentages, copying down, and reading errors. Master those and you've mastered home Excel.

Common Questions

The questions I hear most about Excel formulas.

Q: What formulas do I actually need at home?

Mostly just SUM (adding) and AVERAGE (typical value), plus the percent trick when you need it. The AutoSum button even writes the first two for you.

Q: How do I write a formula?

Click a cell, type an equals sign, then the calculation — like =SUM(B2:B10) — and press Enter. Point at cells rather than typing numbers so results update themselves.

Q: What do error messages like #VALUE! mean?

They're clues to one cell: #VALUE! means text where a number's needed, #DIV/0! means dividing by zero, ##### means the column's too narrow. Each has a quick fix.

Q: Do these work in free spreadsheets?

Yes — Google Sheets and LibreOffice Calc use the identical formulas. Everything here applies to them too.

★ Want a hand with the few you need?

Teaching the handful of formulas that actually help at home is a satisfying little lesson. Call or text me at (330) 200-8042.

The bottom line

Here's the heart of it in a few sentences.

Excel has hundreds of formulas and you need about five: SUM to add, AVERAGE for the typical value, division and multiplication for percentages, copying a formula down a column, and reading error messages as clues. Every one starts with an equals sign and points at cells so it updates itself.

Learn that small set and ignore the rest with a clear conscience. The scary reputation of Excel formulas comes from the hundreds you'll never touch — not from the friendly few that quietly do your household math.

✓ Small set, big payoff

You don't conquer Excel by learning everything. You conquer it by learning the few things you'll actually use — and these are they.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made using Excel formulas at home feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site — installing Office, sorting out a sign-in, setting up a document — I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee.

★ Bill's Home Tech — real help, close to home

Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

The Formulas You'll Use

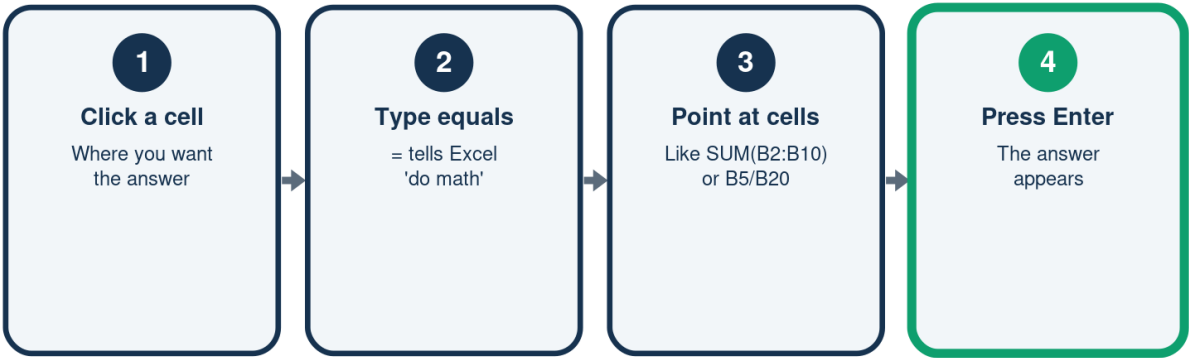
The whole household kit

	Formula	What it does
=SUM(range)	Adds a range	of cells
=AVERAGE(range)	The typical	value
=B5/B20	Finds a	percentage
=B2*1.15	Adds 15%	(tax, tip)
Fill handle	Copies down	a column

Every one starts with = and points at cells.

How to Write Any Formula

The same four moves each time



Point at cells so the answer updates when numbers change.

What the Errors Mean

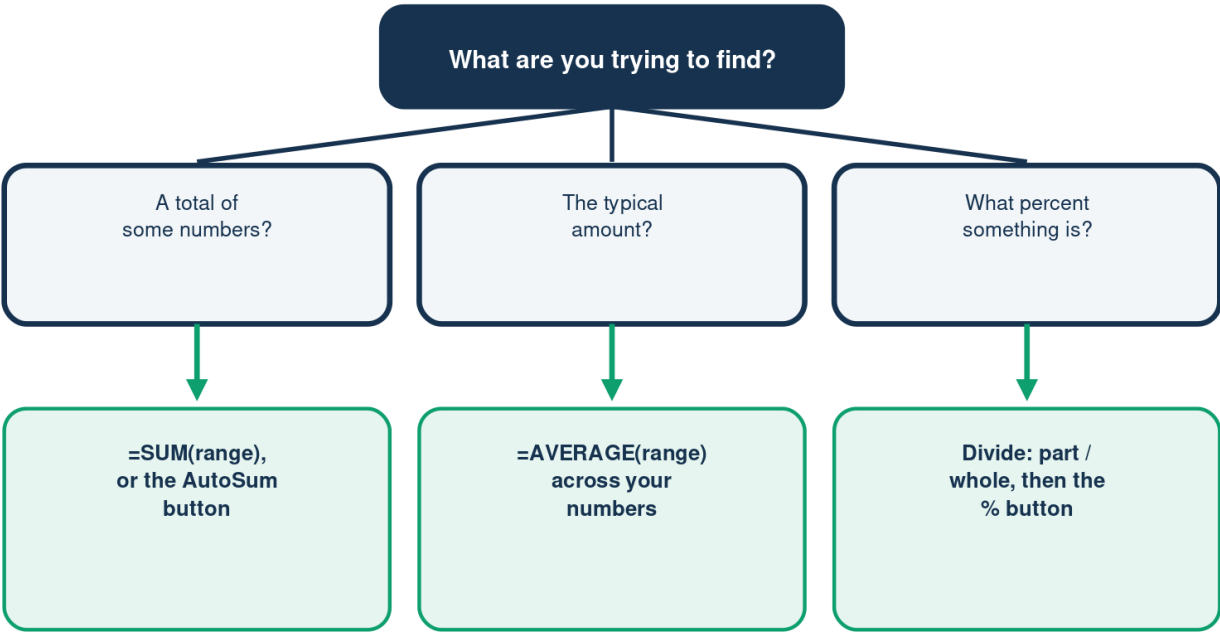
Clues, not catastrophes

	You see	The fix
#####	Column narrow	Widen it
#DIV/0!	Dividing by 0	Check that cell
#VALUE!	Text in a number	Clear the stray
#NAME?	Typo in formula	Fix the spelling
#REF!	Cell deleted	Repoint the formula

An error affects only its own cell -- read it, fix it, move on.

Which Formula Do I Want?

Match the question to the formula



All of these work the same in free Google Sheets and LibreOffice.

Illustration - a schematic, not to scale. Your setup may differ.



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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

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