

Run Your Own Numbers

A guide to TheMoneyBooks Common Sense Calculator™

The math never changes

Markets rise and fall. Products come and go. Headlines change by the hour. The mathematics of money holds still. Compound interest, the time value of money, the way rate and time turn into wealth: these worked the same way a hundred years ago and they will work the same way a hundred years from now. Once you understand the math, nobody can talk you out of it and nobody can use it against you.

That is what this calculator is for. It has nothing to sell you. You put in your own numbers and it shows you what they do, which makes the answer arithmetic rather than anybody's opinion. Every figure in this guide came out of the same four calculators you are holding, so you can reproduce all of them yourself.

What the five boxes ask

Five boxes cover nearly every money question anyone ever asks. YRS is how long. RATE is how fast it grows. PV is what you start with. PMT is what you add along the way. FV is what you end up with. Fill in any four and press SOLVE on the one you left empty.

- **Use your own numbers.** A generic example is forgettable. Your income, your savings, your car loan is the one you will remember.
- **Guess before you solve.** Say what you think the answer will be, out loud or on paper. The gap between your guess and the answer is where the learning happens.
- **Change one number at a time.** One more year. One more percent. A hundred more a month. Solve again and compare. That is how you ask what if, and what if is the language decisions are made in.
- **Keep the picture.** Copy Image puts the whole illustration into one file you can text or save. It keeps working after you close the page.

Before you start

- **Double-tap C to wipe the boxes.** A single tap clears only the number on the screen, and M1 and M2 survive both.
- **Tap TheMoneyBooks logo** to check Payments and Compounding. A few examples below say which to use.
- **You never type a minus sign.** Nowhere in this guide. The calculator knows which way the money is moving.

PART ONE

What time does to money

EXAMPLE 1 The monthly saver

No inheritance and no windfall. Just \$300 a month at 8% for 30 years.

Settings: Compounding monthly, Payments monthly. That is the default, so there is nothing to change.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
30 > YRS	30	How long the money works.
8 > RATE	8	Eight percent a year.
300 > PMT	300	What leaves your pocket each month.
SOLVE > FV	447,108	What it becomes.

THE LESSON

You put in \$108,000. You finish with \$447,108. The other \$339,108 was earned by the money itself while you did nothing but keep going. Starting is what makes that happen, and starting small still counts.

Guess before you press SOLVE. Almost nobody guesses above two hundred thousand.

EXAMPLE 2 The cost of waiting

Same \$300, same 8%. The only difference is that you begin ten years later. Change one number and solve again, leaving everything else where it is.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
20 > YRS	20	The only number that changed.
SOLVE > FV	176,706	Against \$447,108 with thirty years.

THE LESSON

Waiting ten years cost \$270,402, and the deposits you skipped only added up to \$36,000. Every dollar of the other \$234,402 was time, and time is the one input you cannot buy back later.

Which is easier for you to find: \$300 a month, or ten more years?

PART TWO

What it costs you

EXAMPLE 3 Prove the Rule of 72 yourself

Divide 72 by your rate and you get the years it takes money to double. At 9% that is eight years, and you can do it in your head. Now make the calculator check your work.

Settings: Compounding yearly, Payments yearly.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
RULE OF 72 > 9 > RATE	8	The shortcut: 72 divided by 9 is 8 years.
FINANCIAL > 8 > YRS	8	Now prove it.
10000 > PV	10,000	In goes ten thousand.
20000 > FV	20,000	Out comes twenty thousand.
SOLVE > RATE	9.05%	The rate that actually does it.

THE LESSON

The shortcut said eight years, and the exact math says 9.05% is what gets there. Close enough to trust for the rest of your life. Keep it in your head: at 6% money doubles every twelve years, at 9% every eight, at 12% every six.

How many doubling periods do you have left before you need the money?

EXAMPLE 4 The one percent that is not small

Fund A charges 1% a year. Fund B charges 2%. It sounds like a rounding error. Look at it twice, first as a fee and then as a lifetime.

Settings: Compounding yearly, Payments yearly.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
1 GROWTH Δ% 2 =	+100%	Two percent is twice one percent.
7 > RATE SOLVE > FV	761,226	\$100,000 for 30 years netting 7%.
M1	761,226	Park it. M1 holds it while you change the rate.
6 > RATE SOLVE > FV	574,349	The same money netting 6% after the bigger fee.
M2 > GROWTH Δ%	-24.55%	One press measures the damage.

THE LESSON

That extra one percent costs \$186,877, close to a quarter of the whole result. It leaves quietly, a little each year, and it never lands on a statement as a single number you can see.

Go find out what you are actually paying. It is in the fund's prospectus, listed as the expense ratio.

PART THREE

What you actually keep

EXAMPLE 5 The two silent partners

Every number so far has been a gross number. The Wealth Formula asks what you keep after taxes and inflation take their share. Here is \$300 a month for 30 years at 9%, taxed as you go at 25%, with 2.45% inflation.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
300 > MONEY	300	The per-month box.
30 > TIME	346,431	History fills RETURN 10.35% and INFLATION 2.52% on its own, the actual 30-year numbers.
9 > RETURN	260,310	Your own rate. A typed number outranks history.
25 > TAXES	165,147	The first partner takes its cut.
2.45 > INFLATION	168,566	The second cut lands.

THE LESSON

The illustration says \$549,223. You are left with \$168,566. Taxes and inflation quietly took \$380,657 between them, more than three times everything you ever contributed, and neither one sends you a statement.

Which of those two numbers has anyone ever shown you before?

Same money, five places

Press Vehicles in the Wealth Formula and that same \$300 a month for 30 years appears in five places at once, each at its actual rate for the period. Your \$108,000 of deposits sits at the base of every bar in orange, and everything above it is growth.

WHERE IT SAT	AFTER 30 YEARS	THE RATE THAT DID IT
Mattress	108,000	0%. Exactly what went in, for thirty years.
Savings	114,378	0.38%, today's FDIC national savings rate.
5-Yr CD	179,696	3.16%, the 30-year average 5-year Treasury rate that CDs are priced from.
Bonds	216,578	4.22%, the Bloomberg U.S. Aggregate, the broad bond market.
S&P 500	730,928	10.35%, the actual 30-year total return.

THE LESSON

The purple dashed line on that screen is the one that lands. It marks what your \$300 a month had to become simply to keep pace with inflation, which is \$161,150. Mattress and Savings finish below it: thirty years of real discipline that quietly lost buying power.

Which side of that line is your money on right now?

PART FOUR

How long it has to last

EXAMPLE 6 How long does it have to last?

Every example so far solves for money. This one solves for the deadline. A 67-year-old man retires with \$500,000 and asks what it will pay him. Every toggle starts at the typical American default, so you only change what makes you different.

Settings: Compounding monthly, Payments monthly.

WHAT YOU PRESS	SCREEN	WHAT HAPPENED
LONGEVITY	0	The fourth calculator.
67 > AGE	26	Your age. The screen already answers, in years to fund.
REGULAR	27	He exercises at the researched level. One tap adds a year.
USE IN INCOME GOAL	27	One tap drops the answer into the Financial calculator's YRS box.
5 > RATE	5	The money keeps earning while it is drawn down.
500000 > PV	500,000	What he retires with.
SOLVE > PMT	2,815.20	What it pays every month, for all 27 years.

THE LESSON

Healthy to 82, average to 88. One man in four like him reaches 94, so the plan funds 27 years rather than 21. Discovering at 88 that you planned only to 88 is not a problem money can still fix. The payment is better news than most people expect: \$500,000 at 5% pays \$2,815.20 a month the whole way, \$912,123 of income in all, because the balance keeps earning while you spend it down.

Is your plan built on the average, or on the age one in four people like you will reach?

What to do with this

- **Run one of these with your own numbers this week.** Pick the example closest to a decision you are actually facing and put your figures into it.
- **Check one thing you are already paying.** Example 4 takes about five minutes, and it is the fastest money most people ever find.
- **Keep one number.** Save the picture and look at it again in six months. Progress you can see is progress you keep making.

WORTH REMEMBERING

The formulas in this guide will outlive every product and every market cycle. Once you can see money clearly, nobody can take that back, and nobody can talk you out of what the arithmetic says.

Learn the math. The math does the rest.

Want help reading your own numbers?

A financial educator can walk through these same screens with you and talk about what they mean for your situation. Nothing here requires that, and running your own numbers is the whole point of the calculator. A second set of eyes on a real decision is still worth having, and the arithmetic works the same way in either pair of hands.

Historical rates are actual annualized results through December 2025 (S&P 500 total return, Bloomberg U.S. Aggregate bonds, CPI-U inflation, and a 5-yr CD proxied by the 5-year Treasury rate, Fed H.15; savings is the current FDIC national rate) and are not a prediction of future returns. Every figure in this guide is a hypothetical illustration produced by TheMoneyBooks Common Sense Calculator™ and is shown to teach the mathematics of money. Figures assume a constant rate of return and exclude fees and product charges unless the example states otherwise. The Rule of 72 is an estimate. In the Wealth Formula, taxes are applied at one blended rate and inflation at a constant rate; actual tax treatment and inflation will differ. Longevity figures are population-level estimates from the SSA life table, WHO healthy-life-expectancy shares, and published studies, never a prediction of any individual lifespan, a diagnosis, or medical advice. Nothing here is a prediction or guarantee of any actual result, and nothing here is investment, tax, or legal advice.