The Rich Guy Math

Compound Growth Cheat Sheet

The formula behind long-term growth

Use these formulas to understand the math. Real investment returns vary and are never guaranteed.

1) Lump-sum compound growth

$$FV = PV \times (1 + r)^n$$

FV = future value PV = starting amount r = return per period n = number of periods

2) Regular monthly contributions

$$FV = P(1+i)^N + PMT[((1+i)^N - 1)/i]$$

i = monthly rate N = months PMT = monthly contribution

Quick example

Start with $1,000 + add $100/month + assume 7% annually for 20 years.

Total contributed: $25,000 **Estimated future value: about $56,131**

Illustration only. The 7% rate is an assumption, not a prediction.

Three pieces of math to remember

- **Time matters.**
  More compounding periods give growth more time to build on prior growth.
- **Contributions matter.**
  A higher recurring contribution can matter as much as chasing a higher return.
- **Fees matter.**
  Even small annual costs reduce the amount left to compound over long periods.

Rule of 72 (rough mental estimate)

72 / annual return (%) ≈ years to double. Example: 72 / 8 ≈ 9 years.

This is an approximation, not a guarantee or a substitute for an actual calculation.