REVISION GUIDE

Compound Interest and Time Value of Money Revision Guide

A deeper revision guide for simple interest, compound growth, present value, future value, and CAGR, with worked examples that show why time positioning changes the meaning of money.

QUICK OVERVIEW

Category: finance business

Includes 1 related guide page.

Links back to 5 calculator tools.

FORMULA HIGHLIGHTS

Compound growth

A = P(1 + r / n)^(nt)

Present value

PV = FV / (1 + r)^n

WHAT THIS PACK COVERS

Use this pack to keep the time value of money relationships visible when comparing growth, discounting, and the impact of compounding frequency.

FORMULA FAMILY

- A = P x (1 + r x t)
- A = P x (1 + r / n)^(n x t)
- PV = FV / growth factor
- FV = PV x growth factor
- CAGR = (ending / beginning)^(1 / years) - 1

WORKED EXAMPLE: LUMP-SUM COMPOUNDING

1000 at 5 percent annually for 10 years grows to about 1628.89 under annual compounding. The result shows why time and reinvestment matter more than many first expect.

WORKED EXAMPLE: PRESENT VALUE THINKING

A future amount only becomes comparable to a present decision once it is discounted back at a stated rate. Present value is the translation step that makes the comparison honest.

WHAT CAGR DOES AND DOES NOT TELL YOU

CAGR gives a smoothed annual rate across the whole period. It is useful for comparison but says nothing about the volatility of the path taken to get there.

COMMON MISTAKES

- Comparing nominal rates with different compounding conventions as though they were identical.
- Using simple interest where returns are actually reinvested.
- Treating CAGR as a full risk story rather than a summary measure.
- Ignoring fees, inflation, or tax when interpreting the result in real life.