

Time Value of Money Formula Sheet

Every core TVM formula plus BA II Plus calculator keystrokes

A dollar today is worth more than a dollar tomorrow. Here r = rate per period and n = number of periods.

Concept	Formula	Use it when...
Future value (lump sum)	$FV = PV \times (1 + r)^n$	Growing one amount forward
Present value (lump sum)	$PV = FV / (1 + r)^n$	Discounting one future amount
FV of ordinary annuity	$FV = PMT \times [((1+r)^n - 1) / r]$	Equal end-of-period payments
PV of ordinary annuity	$PV = PMT \times [(1 - (1+r)^{-n}) / r]$	Valuing a stream of payments
Annuity due	Multiply annuity result $\times (1 + r)$	Payments at START of period
Perpetuity	$PV = PMT / r$	Payments forever, no growth
Growing perpetuity	$PV = PMT / (r - g)$	Payments growing at rate g
Effective annual rate	$EAR = (1 + APR/m)^m - 1$	m = compounding periods/year

BA II Plus keystrokes

Set **P/Y = 1** first (2ND - I/Y - 1 - ENTER). Enter the four known values, then **CPT** the unknown. Cash out is negative, cash in is positive.

Key	Meaning	Example
N	Number of periods	10
I/Y	Rate per period (%)	6
PV	Present value	-1000
PMT	Payment per period	0
FV	Future value	CPT -> 1790.85

Sign tip: if your answer comes out negative, you likely entered PV and FV with the same sign. One should be an outflow (negative).