Compound Interest Formulas

Symbols in Eng. Economy	Equations	Symbols in Finance	Excel Functions
$F = P(F/P, i, n)$	$F = P(1+i)^n$	$FV_n = P_0(FVIF_{i,n})$	FV(**rate, nper, pmt**, pv, 0) FVSchedule(principal, schedule)
$P = F(P/F, i, n)$	$P = F\dfrac{1}{(1+i)^n}$	$PV_0 = FV_n(PVIF_{i,n})$	PV(**rate, nper, pmt**, fv, 0) NPV(**rate, value1, value2, ...**)
$F = A(F/A, i, n)$	$F = A\left[\dfrac{(1+i)^n - 1}{i}\right]$	$FVA_n = R(FVIFA_{i,n})$	FV(**rate, nper, pmt**, pv, 0)
$P = A(P/A, i, n)$	$P = A\left[\dfrac{(1+i)^n - 1}{i(1+i)^n}\right]$	$PVA_n = R(PVIFA_{i,n})$	PV(**rate, nper, pmt**, fv, 0) NPV(**rate, value1, value2, ...**)
$F = A_0(1+i)(F/A, i, n)$	$F = A_0(1+i)\left[\dfrac{(1+i)^n - 1}{i}\right]$	$FVAD_n = R(FVIFA_{i,n})(1+i)$	FV(**rate, nper, pmt**, pv, **1**)
$P = A_0(1+i)(P/A, i, n)$	$P = A_0(1+i)\left[\dfrac{(1+i)^n - 1}{i(1+i)^n}\right]$	$PVAD_n = R(PVIFA_{i,n})(1+i)$	PV(**rate, nper, pmt**, fv, **1**)
$A = F(A/F, i, n)$	$A = F\left[\dfrac{i}{(1+i)^n - 1}\right]$	$R = \dfrac{FV}{FVIFA_{i,n}}$	PMT(**rate, nper, pv**, fv, type)
$A = P(A/P, i, n)$	$A = P\left[\dfrac{i(1+i)^n}{(1+i)^n - 1}\right]$	$R = \dfrac{PV}{PVIFA_{i,n}}$	PMT(**rate, nper, pv**, fv, type)
$A = G(A/G, i, n)$	$A = G\left[\dfrac{(1+i)^n - in - 1}{i(1+i)^n - 1}\right]$		
$P = G(P/G, i, n)$	$P = G\left[\dfrac{(1+i)^n - in - 1}{i^2(1+i)^n}\right]$		
Geometric Series	$P = A_1\left[\dfrac{n}{(1+i)}\right]$ if $i = g$		
Geometric Series	$P = A_1\left[\dfrac{1 - \dfrac{(1+g)^n}{(1+i)^n}}{i-g}\right]$ if $i \neq g$		

A_0 = Annuities due

A_1 = 1st cash flow in Geometric Series