FORMULA SHEET

Summary of Discrete Compounding Interest Factors

Compound amount factor	$(F/P, i, N) = (1+i)^N$
Present worth factor	$(P/F, i, N) = \frac{1}{(1+i)^N}$
Sinking fund factor	$(A/F, i, N) = \frac{i}{(1+i)^N - 1}$
Uniform series compound amount factor	$(F/A, i, N) = \frac{(1+i)^N - 1}{i}$
Capital recovery factor	$(A/P, i, N) = \frac{i\,(1+i)^N}{(1+i)^N - 1}$
Uniform Series present worth factor	$(P/A, i, N) = \frac{(1+i)^N - 1}{i\,(1+i)^N}$
Arithmetic gradient to annuity conversion factor	$(A/G, i, N) = \frac{1}{i} - \frac{N}{(1+i)^N - 1}$
Arithmetic gradient to compound conversion factor	$(F/G, i, N) = \left(\frac{1}{i}\right)\left(\frac{(1+i)^N - 1}{i} - N\right)$
Arithmetic gradient to present worth conversion factor	$(P/G, i, N) = \frac{1 - (1+Ni)(1+i)^{-N}}{i^2}$
Geometric gradient to present worth conversion factor	$i^o = \frac{1+i}{1+g} - 1$ $(P/A, g, i, N) = \left(\frac{(1+i^o)^N - 1}{i^o(1+i^o)^N}\right)\frac{1}{1+g}$
Capitalized value formula	$P = \frac{A}{i}$
Capital recovery formula	$A = (P - S)(A/P, i, N) + S\,i$

Effective interest rate i_e	$i_e = (1 + \frac{i_r}{m})^m - 1$
Straight line depreciation	$D_n = \frac{B - S}{N}$ $BV_n = P - n\frac{P - S}{N}$
Declining balance depreciation	$BVn = P(1 - d)^N$ $D_n = BV_{n-1}d$