Formula Sheet

Series Compound Amount:

To Find F Given A $(F/A,i,n)$ $F = A\left[\frac{(1+i)^n - 1}{i}\right]$

Compound Amount:

To Find F Given P $(F/P,i,n)$ $F = P(1+i)^n$

Sinking Fund:

To Find A Given F $(A/F,i,n)$ $A = F\left[\frac{i}{(1+i)^n - 1}\right]$

Present Worth:

To Find P Given F $(P/F,i,n)$ $P = F(1+i)^{-n}$

Capital Recovery:

To Find A Given P $(A/P,i,n)$ $A = P\left[\frac{i(1+i)^n}{(1+i)^n - 1}\right]$

Simple Interest: $I = niP$

For $(n \to \infty)$: $P = A/i$

Series Present Worth:

To Find P Given A $(P/A,i,n)$ $P = A\left[\frac{(1+i)^n - 1}{i(1+i)^n}\right]$

Straight Line Depreciation:

$$d_t = \frac{B-S}{N}$$

Arithmetic Gradient Uniform Series:

To Find A Given G $(A/G,i,n)$ $A = G\left[\frac{(1+i)^n - in - 1}{i(1+i)^n - i}\right]$

or $A = G\left[\frac{1}{i} - \frac{n}{(1+i)^n - 1}\right]$

Sum-Of-Years'-Digits Depreciation:

$$d_t = \frac{N-t+1}{SOYD}(B-S)$$

Double Declining Balance Depreciation:

$$d_t = \frac{2}{N}(Book\ Value_{t-1})$$
$$= \frac{2}{N}\left(B - \sum_{j=1}^{t-1} d_j\right)$$

Arithmetic Gradient Present Worth:

To Find P Given G $(P/G,i,n)$ $P = G\left[\frac{(1+i)^n - in - 1}{i^2(1+i)^n}\right]$

Geometric Series Present Worth:

To Find P Given A_1, g $(P/A,g,i,n)$ When $i = g$ $P = A_1[n(1+i)^{-1}]$

To Find P Given A_1, g $(P/A,g,i,n)$ When $i \neq g$ $P = A_1\left[\frac{1 - (1+g)^n(1+i)^{-n}}{i-g}\right]$

$i_e = \left(1 + \frac{r}{c}\right)^c - 1$	
$D' = \frac{C_F}{(p - c_v)}$	$D^* = \frac{a - c_v}{2b}$
$D' = \frac{-(a - c_v) \pm [(a - c_v)^2 - 4(-b)(-C_F)]^{1/2}}{2(-b)}$	
$\widehat{D} = \frac{a}{2b}$	Profit = TR – C_T
$C_T = C_F + c_v * D$	TR = price x demand = p * D