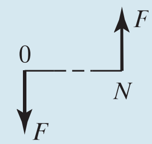
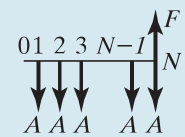
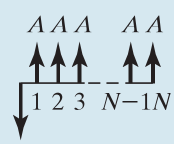
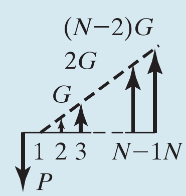
TABLE 3.4 Summary of Discrete Compounding Formulas with Discrete Payments

Flow Type	Factor Notation	Formula	Excel Command	Cash Flow Diagram
SINGLE	Compound amount $(F/P, i, N)$	$F = P(1 + i)^N$	$=\mathrm{FV}(i, N, P,, 0)$	
	Present worth $(P/F, i, N)$	$P = F(1 + i)^{-N}$	$=\mathrm{PV}(i, N, F,, 0)$	
EQUAL PAYMENT SERIES	Compound amount $(F/A, i, N)$	$F = A\left[\dfrac{(1 + i)^N - 1}{i}\right]$	$=\mathrm{PV}(i, N, A,, 0)$	
	Sinking fund $(A/F, i, N)$	$A = F\left[\dfrac{i}{(1 + i)^N - 1}\right]$	$=\mathrm{PMT}(i, N, P, F, 0)$	
	Present worth $(P/A, i, N)$	$P = A\left[\dfrac{(1 + i)^N - 1}{i(1 + i)^N}\right]$	$=\mathrm{PV}(i, N, A,, 0)$	
	Capital recovery $(A/P, i, N)$	$A = P\left[\dfrac{i(1 + i)^N}{(1 + i)^N - 1}\right]$	$=\mathrm{PMT}(i, N,, P)$	
GRADIENT SERIES	Linear gradient Present worth $(P/G, i, N)$	$P = G\left[\dfrac{(1 + i)^N - iN - 1}{i^2(1 + i)^N}\right]$		
	Conversion factor $(A/G, i, N)$	$A = G\left[\dfrac{(1 + i)^N - iN - 1}{i[(1 + i)^N - 1]}\right]$		
	Geometric gradient Present worth $(P/A_1, g, i, N)$	$P = \begin{bmatrix} A_1\left[\dfrac{1 - (1 + g)^N(1 + i)^{-N}}{i - g}\right] \\ A_1\left(\dfrac{N}{1 + i}\right)(\text{if } i = g) \end{bmatrix}$