$C_n = C_0 \cdot (1+r)^n$

$C_0 = \frac{C_n}{(1+r)^n}$

NPV $= C_0 + \sum_{t=1}^{T} \frac{C_t}{(1+r)^t}$; C_0 =-Cost

EAIR $= \left(1 + \frac{r}{m}\right)^m - 1$

FV with Compounding $= C_0 \left(1 + \frac{r}{m}\right)^{mT}$

Continuous: EAIR $= e^r$

NPV Perpetuity $= \frac{C}{r}$

NPV Annuity $= C\left[\frac{1}{r} - \frac{1}{r(1+r)^T}\right]$

FV Annuity $= C\left[\frac{(1+r)^T}{r} - \frac{1}{r}\right]$

Growing Perpetuity $= \frac{C}{r-g}$

Growing Annuity $= C\left[\frac{1}{r-g} - \frac{1}{r-g}\left(\frac{1+g}{1+r}\right)^T\right]$

NPV (Zero Coupon)= $\frac{\text{F}}{(1+r)^T}$

NPV (Consol) $= \frac{C}{r}$

NPV (Coupon Bond) $= C \cdot A_r^T + \frac{F}{(1+r)^T}$

Zero-Growth Stock NPV $= P_0 = \frac{DIV}{r}$

Constant-Growth Stock NPV $= P_0 = \frac{DIV}{r-g}$

Growth rate = g = Retention Ratio x Return on retained earnings

$r = \frac{DIV}{P_0} + g$

$P_0 = \frac{EPS}{r} + NPVGO$

Profitability Index = NPV of future cash flows/Initial Investment

$r_r = \frac{1+r_n}{1+e_i} - 1$

Approximately, $r_r = r_n - i_e$

$R = \frac{(W-I)}{I}$

$\bar{R} = \sum R_i \cdot Prob_i$
$= R_1 Prob_1 + R_2 Prob_2 + R_3 Prob_3 + ...$

Var(R) $= \sigma^2 = \sum \left(R_i - \bar{R}\right)^2 \cdot Prob_i$
$= \left(R_1 - \bar{R}\right)^2 \cdot Prob_1 + \left(R_2 - \bar{R}\right)^2 \cdot Prob_2 + \left(R_3 - \bar{R}\right)^2 \cdot Prob_3 + ...$

SD $= \sqrt{\sigma^2} = \sigma$

Covariance$(R_A, R_B) = \sigma_{AB} = \sum \left(R_{Ai} - \bar{R_A}\right)\left(R_{Bi} - \bar{R_B}\right) \cdot Prob_i$
$= \left(R_{A1} - \bar{R_A}\right)\left(R_{B1} - \bar{R_B}\right) Prob_1 + \left(R_{A2} - \bar{R_A}\right)\left(R_{B2} - \bar{R_B}\right) Prob_2 + \left(R_{A3} - \bar{R_A}\right)\left(R_{B3} - \bar{R_B}\right) Prob_3 +$
...

Correlation $= \rho_{AB} = \frac{\sigma_{AB}}{\sigma_A \cdot \sigma_B}$

$\bar{R_{Portfolio}} = X_A \bar{R_A} + X_B \bar{R_B}$

$\sigma^2_{Portfolio} = X_A^2 \sigma_A^2 + 2 X_A X_B \sigma_{AB} + X_B^2 \sigma_B^2$

$\beta_i = \frac{\sigma_{i,M}}{\sigma_M^2} = \frac{\rho_{i,M}\sigma_i}{\sigma_M}$

CML: $\sigma_{Portfolio} = X_M \sigma_M$ and $\bar{R_{Portfolio}} = X_{rf} R_r f + X_M \bar{R_M}$

SML: $\bar{R_i} = R_{rf} + \left(\bar{R_M} - R_{rf}\right) \beta_i$

$\beta_{assets} = \frac{S}{S+B} \beta_{equity} + \frac{B}{S+B} \beta_{debt}$

$r_{WACC} = \frac{S}{S+B} r_S + \frac{B}{S+B} r_B \left(1 - T_c\right)$

$V_L = V_U + T_C B$

$r_s = r_0 + \left(1 - T_c\right)\left(r_0 - r_B\right) \frac{B}{S}$

$V_L = \frac{EBIT(1-T_c)}{r_{WACC}}$

$S = \frac{(EBIT - r_B B)(1-T_c)}{r_S}$

delta $= \Delta = \frac{swing\ of\ option}{swing\ of\ stock}$

in terms of prices, Stock + Put = Call + PV Bond

$\beta_{Equity} = \beta_{Assets} + \left(\beta_{Assets} - \beta_{Debt}\right) \frac{B}{E}$