

FINANCIAL FORMULAS
MATH 151

- Simple Interest: $I = Prt$

- Future or Maturity Value for Simple Interest: $A = P(1 + rt)$

- Present Value for Simple Interest: $P = \frac{A}{1 + rt}$

- Discount on Simple Discount Note: $D = Prt$ (r is discount rate)

- Future Value for Compound Interest: $A = P(1 + i)^n = P \left(1 + \frac{r}{m}\right)^{mt}$

- Present Value for Compound Interest: $P = \frac{A}{(1 + i)^n} = A(1 + i)^{-n} = A \left(1 + \frac{r}{m}\right)^{-mt}$

- Effective Rate (Annual Percentage Yield) for Compound Interest: $r_E = \left(1 + \frac{r}{m}\right)^m - 1$

- Future Value of an Ordinary Annuity: $S = R \left[\frac{(1 + i)^n - 1}{i} \right]$

- Future Value of an Annuity Due: $S = R \left[\frac{(1 + i)^{n+1} - 1}{i} \right] - R$

- Present Value of an Ordinary Annuity: $P = R \left[\frac{1 - (1 + i)^{-n}}{i} \right]$

- Amortization Payment: $R = \frac{P}{\left[\frac{1 - (1 + i)^{-n}}{i} \right]} = \frac{Pi}{1 - (1 + i)^{-n}}$