

# Financial Math Reference Sheet

## Simple Interest

$$I = Prt$$

$P$  = Principle

$r$  = Interest Rate

$t$  = Time in years

## Maturity Simple Interest Value

$$A = P(1 + rt)$$

## Compounding Interest

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

## Present Value for Compounding Interest

$$P = \frac{A}{\left(1 + \frac{r}{n}\right)^{nt}}$$

## APR (Annual Percentage Rate)

$$APR = \frac{2nr}{n+1}$$

$n$  = # of payments

## Payment Formula (also Mortgage Payment)

$$PMT = A * \left(\frac{\frac{r}{n}}{1 - \left(1 + \frac{r}{n}\right)^{-nt}}\right)$$

$n$  = # of payments per year (usually 12)

$A$  = Mortgaged amount on loan

## Loan Payoff Formula

$$A = PMT \left(\frac{1 - \left(1 + \frac{r}{n}\right)^{-u}}{\frac{r}{n}}\right)$$

$u$  = # of unpaid payments

## Net Asset Value of a Mutual Fund

$$NAV = \frac{A-L}{N}$$

$A$  = Total Assets

$L$  = Total Liabilities

$N$  = # of outstanding shares