MGF1107 – Personal Financial Management

Formula Sheet

| Name | Formula | Variables |
|---|---|---|
| **Simple Interest** | $I = Prt$ | P=principal<br>r=annual rate<br>t=time |
| **Future Value For Simple Interest** | $A = P(1 + rt)$ | P=principal<br>r=annual rate<br>t=time |
| **Future Value For Compound Interest** | $A = P(1 + \frac{r}{n})^{nt}$ | P=principal<br>r=annual rate<br>t=time<br>n=number of times per year compounded |
| **Effective Annual Yield** | $Y = (1 + \frac{r}{n})^{n}$-1 | Y=yield<br>r=annual rate<br>n=number of times per year compounded |
| **Future Value for Continuous Compounding** | $A = Pe^{rt}$ | P=principal<br>r=annual rate<br>t=time |
| **Inflation Proportion** | $\frac{Price\ in\ Year\ A}{Price\ in\ Year\ B} = \frac{CPI\ in\ year\ A}{CPI\ in\ year\ B}$ | |
| **Unearned Interest – Actuarial Method** | $u = kR\left(\frac{h}{\$100 + h}\right)$ | R=Regular monthly payment<br>K=number of remaining payments after current payment<br>h=finance charge per $100 |

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|---|---|---|
| **Payoff Amount** | $Payoff\ amount = (k+1)R - u$ | R=Regular monthly payment<br>K=number of remaining payments after current payment<br>U=unearned interest |
| **Unearned Interest – Rule of 78** | $u = \frac{k(k+1)}{n(n+1)} * F$ | F=original finance charge<br>n=number of payments originally scheduled<br>k=number of remaining payments |
| **Finance Charge per $100 financed** | $h = \frac{n \times \frac{APR}{12} \times \$100}{1 - \left(1 + \frac{APR}{12}\right)^{-n}} - \$100$ | H=finance charge per $100 financed<br>APR=true APR for loan |
| **Regular Monthly Payment** | $R = \frac{P\left(\frac{r}{12}\right)}{1 - \left(\frac{12}{12+r}\right)^{12t}}$ | P=principal<br>r=annual rate<br>t=time<br>R=regular payment |
| **Net Asset Value of a Mutual Fund** | $NAV = \frac{A - L}{N}$ | NAV=net asset value<br>A=total fund assets<br>L=total fund liabilities<br>N=number of outstanding shares |