1. Compound Interest.

\[ A = P \left(1 + \frac{r}{k}\right)^{txk} = P(1 + \hat{i})^{txk} = P(1 + \hat{i})^n. \]

- \( A \)–return after \( t \) years
- \( P \)–principal
- \( r \)–interest rate
- \( \hat{i} \left(=\frac{r}{k}\right) \)–interest rate per compounding period
- \( t \)–number of years
- \( k \)–number of times per year the interest is compounded
- \( n \left(= t \times k\right) \)–number of compounding periods

2. Saving Plan.

\[ A = d \left[\frac{(1 + \hat{i})^n - 1}{\hat{i}}\right]. \]

- \( d \)–deposit
- \( \hat{i}, n \) as above

3. Inflation and Present Value.

\[ A = P(1 + r)^n, \text{ present value of a dollar } n \text{ years from now is } \left(1 - \frac{r}{1 + r}\right)^n. \]

- \( r \)–annual inflation rate
- \( P \)–price of an item today
- \( A \)–price of the item \( n \) years later.

4. Depreciation.

\[ A = P(1 + i)^n. \]

- \( A \)–value \( n \) years later
- \( P \)–price of an item today
- \( i \)–annual depreciation rate.