

### Simple Interest

$$I = Prt$$

### Future Value (simple interest)

$$A = P + I \text{ or } A = P(1 + rt)$$

### Compound Interest

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

### Effective Interest Rate

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

### Future Value of an Annuity

$$A = \frac{R \left[ \left(1 + \frac{r}{n}\right)^{nt} - 1 \right]}{\frac{r}{n}}$$

### Annuity Payment

$$R = \frac{A \left(\frac{r}{n}\right)}{\left[ \left(1 + \frac{r}{n}\right)^{nt} - 1 \right]}$$

### Loan Payment

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