

Exponential Growth and Decay Formulas

$$y = a(1 + r)^t$$

$$y = a(1 - r)^t$$

Interest Formulas

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

$$A = Pe^{rt}$$

Annuity Formulas

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

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

Loan Formula

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