

SIMPLE INTEREST FORMULAS

$$\begin{aligned} I &= Prt \\ A &= P \cdot (1 + rt) \end{aligned}$$

COMPOUND INTEREST FORMULA

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

FORMULA FOR FUTURE VALUE OF AN ORDINARY ANNUITY

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

FORMULA FOR PAYMENT OF A SINKING FUND

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

FORMULA FOR R, THE REGULAR MONTHLY PAYMENT OF A LOAN

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

FORMULA FOR P, THE PRINCIPAL YOU CAN BORROW WITH A PAYMENT R

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

FORMULA FOR UNPAID BALANCE

$$\begin{aligned} \text{Unpaid} \\ \text{Balance} \end{aligned} = P \left(1 + \frac{r}{n}\right)^{nt} - R \cdot \left[\left(1 + \frac{r}{n}\right)^{nt} - 1 \right] \div \left(\frac{r}{n}\right)$$