

COMPOUND INTEREST

FORMULAE:

(1) $S.I. = \frac{P \times r \times t}{100}$

(2) When interest is compounded annually:

$$A = \left(1 + \frac{r}{100}\right)^n$$

$$C.I = P \left[\left(1 + \frac{r}{100}\right)^n - 1 \right]$$

(3) When rates are different for different years:

$$A = P \left(1 + \frac{r_1}{100}\right) \left(1 + \frac{r_2}{100}\right) \left(1 + \frac{r_3}{100}\right) \dots$$

(4) When the period is n years and m months:

$$A = \left(1 + \frac{r}{100}\right)^n \left(1 + \frac{r \times \frac{m}{12}}{100}\right)$$

(5) When the interest is compounded half yearly:

$$A = P \left(1 + \frac{r}{2 \times 100}\right)^{2n}$$

(6) When the interest is payable x monthly:

$$A = P \left(1 + \frac{r \times \frac{x}{12}}{100} \right)^{n \left(\frac{12}{x} \right)}$$

(7) For growth:

$$V = V_0 \left(1 + \frac{r}{100} \right)^n$$

(8) For depreciation:

$$V = V_0 \left(1 - \frac{r}{100} \right)^n$$