

* Simple Interest :

- Principal : The money borrowed or lent out for certain period is called the principle or the sum.
- Interest : The extra money paid for using others money is called interest.
- Simple Interest : If the interest on a sum borrowed for certain period is ~~recal~~ reckoned uniformly, then it is called simple interest.
Let ; principal = P, Rate = R% per annum (p.a) &
T = Time period (years).

$$1] S.I = \left[\frac{P \times R \times T}{100} \right]$$

$$2] \left[P = \frac{100 \times SI}{R \times T} \right] ; \left[R = \frac{100 \times SI}{P \times T} \right] ; \left[T = \frac{100 \times SI}{P \times R} \right]$$

* Compound Interest :

✓ P = principal ; R = Rate ; Time = N yrs.

i] When interest is compounded annually,

$$\text{Amount} = P \times \left[1 + \frac{R}{100} \right]^n$$

ii] When interest is compounded half yearly

$$\text{Amount} = P \left[1 + \frac{(R/2)}{100} \right]^{2n}$$

iii] When interest is compounded quarterly

$$\text{Amount} = P \left[1 + \frac{(R/4)}{100} \right]^{4n}$$

iv] When interest is compounded annually but time is in fraction say $3\frac{2}{5}$ yrs

$$\text{Amount} = P \left[1 + \frac{R}{100} \right]^3 \times \left[1 + \frac{2/5 R}{100} \right]$$

v] When rates are diff. for diff. yrs say $R_1\%$, $R_2\%$ & $R_3\%$ for 1st, 2nd, 3rd yrs resp.

$$\text{Amount} = P \left[1 + \frac{R_1}{100} \right] \left[1 + \frac{R_2}{100} \right] \left[1 + \frac{R_3}{100} \right]$$

vi] Present worth of Rs x due in years hence is given by

$$\text{present worth} = \frac{x}{\left[1 + \frac{R}{100} \right]^n}$$