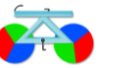# CBSE
CLASS 8
Simple & Compound Interest

FORMULAE – v1
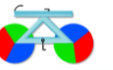
Dt: 11/02/2022

SIMPLE INTEREST

1. S.I = $\dfrac{P \times R \times T}{100}$

- Where

- S.I = Simple Interest

- P = Principal

- R = Rate of interest per annum

- T = Time period in years

SIMPLE INTEREST

FORMULAE

2. $P = \dfrac{S.I \times 100}{R \times T}$
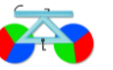
Use this formula; If Principal has to be found

3. $R = \dfrac{S.I \times 100}{P \times T}$

Use this formula; If Rate of interest has to be found

4. $T = \dfrac{S.I \times 100}{P \times R}$

Use this formula; If Time period has to be found

Always remember, if "T" is given in months, convert it into years by dividing the months given by 12.

COMPOUND INTEREST

1. **Compounded annually** : When the interest is added to the principal at the end of each year, the interest is said to be compounded **annually**.

2. **Compounded half yearly** : When the interest is added to the principal at the end of every half year, the interest is said to be compounded **half yearly**.

3. **Compounded quarterly** : When the interest is added to the principal after every three months, the interest is said to be compounded **quarterly**.
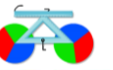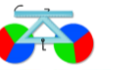
COMPOUND INTEREST

4. $A = P\left(1 + \frac{R}{100}\right)^n$

- Where
- A = Amount after n years
- P = Principal
- R = Rate of interest per annum
- n = Time period in years

5. C.I = A − P

$$= P\left(1 + \frac{R}{100}\right)^n - P$$

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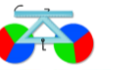
- Where
- C. I = Compound Interest

COMPOUND INTEREST

If the k is the number of times interest is payable (also known as compounded) , then the formula are

5. $A = P\left(1 + \dfrac{R}{100k}\right)^{nk}$

- Where
- A = Amount after n years
- P = Principal
- R = Rate of interest per annum
- n = Time period in years

6. $C.I = P\left[\left(1 + \dfrac{R}{100k}\right)^{nk} - 1\right]$

- Where
- C. I = Compound Interest

COMPOUND INTEREST

When interest is compounded annually, but rate of interests are different each year.

7. $A = P\left(1 + \dfrac{R_1}{100}\right)\left(1 + \dfrac{R_2}{100}\right)\left(1 + \dfrac{R_3}{100}\right)\ldots\ldots\ldots\left(1 + \dfrac{R_n}{100}\right)$

- Where

- A = Amount after n years

- P = Principal

- $R_1, R_2, R_3, \ldots\ldots R_n$ = Rate of interest per annum for different years.