LEC.1:

Math

Pure
- Integration
- Differentiation

Applied
- Statistics
- Math Of Investment
- Math Of Finance

Math Of Finance: (Related To Money)

1- Investment: you invest money to get return.

2- Loan: you borrow money and pay interest.

➡ **Contract components:**

1- Borrowed Money $\rightarrow$ (P).

- Called: present value or principal

2- Interest rate $\rightarrow$ (i):

3- Time $\rightarrow$ (t) :

- Must be in years

- Converted Term

➡ **They are used to calculate the Interest Value.**

Interest Value (I):

$$= \boldsymbol{p} \times \boldsymbol{i} \times \boldsymbol{t}$$

Term $\rightarrow$ Time Period. (T)

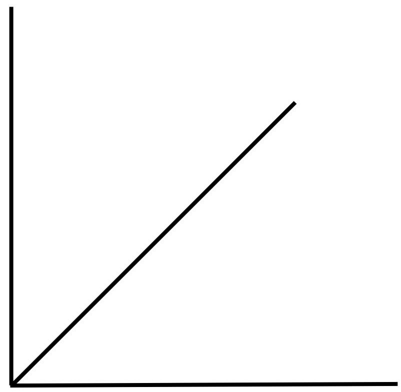
- **Term is given in the questions.**
- **If the term given is in (years) then t = T.**
- **If the term is given in months , then** $\boldsymbol{t = \frac{T}{12}}$

Loan → Borrowed money + Interest

$$\underbrace{P \qquad + \qquad i}_{\text{Future Value}}$$

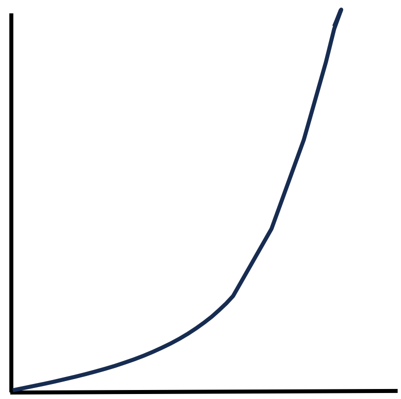
Types of interest :

1- Simple **2-Discount** **3- Complex**



1- Simple interest:

- **Small**
- **Slow Increasing rate.**



2- Complex Interest:

- **Large / Accumulated**
- **Fast Increasing rate.**