Formula: Finance Area

1. **Simple Interest = P * i * t**   P = *principal*, i = *interest*, t = *time*.

2. **Compound Interest = S = P*$(1+i)^t$**   *Calculation of future value of single sum invested.*

3. **Future value of annuity = *FV* = P*$\left[\dfrac{(1+i)^n - 1}{i}\right]$**

4. **Present value of single amount = *PV* = $\dfrac{FV}{(1+i)^n}$ OR   PV = FV * $(1+i)^{-n}$**

5. *Present value of annuity* **= *PV* = R * $\dfrac{[1-(1+i)^{-n}]}{i}$**   *R -> Periodic payment or installment of loan or lease.*

6. **Present value of long = PV of periodic   +   PV of principal amount**
   term note or Bond   Interest payment   to be received at maturity.

   $\downarrow$ $\downarrow$

   = P*$\dfrac{[(1+i)^{-n} - 1]}{i}$ +   FV*$(1+i)^{-n}$

7. **Perpetuity = PV of perpetuity = $\dfrac{\text{Cash flow}}{i}$**

Note:

- If amount is invested for semi-annually i.e., two times in a year, then multiply "t or n" with 2 and divide "i" with 2.
- Similarly, adjust with 4 for Quarterly payment.
- Similarly, adjust with 12 for Monthly payment.