1. **Simple Interest Formulas**

   - $I = Prt$
   - $A = P + Prt$

2. **Compound Interest Formula**

   - $A = P\left(1 + \dfrac{r}{n}\right)^{nt}$

3. **Effective Rate**

   - $E = \left(1 + \dfrac{r}{n}\right)^{n} - 1$

4. **Annuity Formulas (Future value of payments)**

   - $A = \dfrac{R \cdot \left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}{\left(\frac{r}{n}\right)}$
   - $R = \dfrac{A \cdot \left(\frac{r}{n}\right)}{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}$

5. **Present value of future payments**

   - $P = \dfrac{R \cdot \left[1 - \left(1 + \frac{r}{n}\right)^{-nt}\right]}{\left(\frac{r}{n}\right)}$

6. **Mortgage Formula (Payments for present value)**

   - $R = \dfrac{P \cdot \left(\frac{r}{n}\right)}{\left[1 - \left(1 + \frac{r}{n}\right)^{-nt}\right]}$

7. **Counting Formulas**

   - Permuations of n objects: $n!$
   - Permutations of r objects taken from n: $_nP_r = \dfrac{n!}{(n-r)!}$
   - Permutations of n objects where some are alike: $\dfrac{n!}{n_1!\,n_2!\,\cdots\,n_p!}$
   - Combinations of r objects taken from n: $_nC_r = \dfrac{n!}{(n-r)!\,r!}$