Important Formulas of Compound Interest PDF





1.5) Time Period of Compound Interest Formula 🕝 Evaluate Formula 🦳 Formula $t = \frac{1}{n} \cdot \log\left(\left(1 + \frac{r}{n \cdot 100}\right), \frac{CI}{P} + 1\right)$ Example with Units $3.0043 \, \text{Year} = \frac{1}{4} \cdot \log \left(\left(1 + \frac{5}{4 \cdot 100} \right), \frac{161}{1000} + 1 \right)$ 2) Annual Compound Interest Formulas 🕝 2.1) Annual Compound Interest Formula 🕝 Evaluate Formula 🦳 Formula Example with Units $CI_{Annual} = P_{Annual} \cdot \left(\left(1 + \frac{r_{Annual}}{100} \right)^{t_{Annual}} \cdot 1 \right) \left| 44 = 100 \cdot \left(\left(1 + \frac{20}{100} \right)^{2 \cdot y_{ear}} \cdot 1 \right) \right|$ 2.2) Annual Rate of Compound Interest Formula Evaluate Formula 🦳 Formula Example with Units $\mathbf{r}_{Annual} = 100 \cdot \left(\left(\frac{\mathrm{CI}_{Annual}}{\mathrm{P}_{Annual}} + 1 \right)^{\frac{1}{\mathrm{T}_{Annual}}} - 1 \right) \left| \quad \right| \quad 20 = 100 \cdot \left(\left(\frac{44}{100} + 1 \right)^{\frac{1}{2 \, \mathrm{Ver}}} - 1 \right) \right|$ 2.3) Final Amount of Annual Compound Interest Formula Evaluate Formula Formula Example with Units $A_{Annual} = P_{Annual} \cdot \left(1 + \frac{r_{Annual}}{100}\right)^{t_{Annual}} \left| 144 = 100 \cdot \left(1 + \frac{20}{100}\right)^{2 \, \text{Year}} \right|$







3.4) Semi Annual Rate of Compound Interest given Annual Rate Formula

Formula	Example
$r_{\text{Semi Annual}} = \frac{r_{\text{Annual}}}{2}$	$10 = \frac{20}{2}$

Evaluate Formula

3.5) Time Period of Semi Annual Compound Interest Formula 🕝

Formula

$$t_{\text{Semi Annual}} = \frac{1}{2} \cdot \log \left(\left(1 + \frac{r_{\text{Annual}}}{2 \cdot 100} \right), \frac{\text{CI}_{\text{Semi Annual}}}{P_{\text{Semi Annual}}} + 1 \right)$$

Example with Units

$$1.5_{\text{Year}} = \frac{1}{2} \cdot \log\left(\left(1 + \frac{20}{2 \cdot 100}\right), \frac{3310}{10000} + 1\right)$$

Evaluate Formula

Variables used in list of Important Formulas of Compound Interest above

- A Final Amount of CI
- Annual Final Amount of Annual CI
- Asemi Annual Final Amount of Semi Annual CI
- Cl Compound Interest
- Cl_{Annual} Annual Compound Interest
- Cl_{Semi Annual} Semi Annual Compound Interest
- **n** No. of Times Interest Compounded Per Year
- P Principal Amount of Compound Interest
- PAnnual Principal Amount of Annual Compound Interest
- Psemi Annual Principal Amount of Semi Annual
 Cl
- r Rate of Compound Interest
- r_{Annual} Annual Rate of Compound Interest
- r_{Semi Annual} Semi Annual Rate of Compound Interest
- t Time Period of Compound Interest (Year)
- **t_{Annual}** Time Period of Annual Compound Interest (*Year*)
- t_{Semi Annual} Time Period of Semi Annual CI (Year)

Constants, Functions, Measurements used in list of Important Formulas of Compound Interest above

- Functions: log, log(Base, Number) Logarithmic function is an inverse function to exponentiation.
- Measurement: Time in Year (Year) Time Unit Conversion

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 Formulas (*)
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