Mathematical Finance formulas

- Simple interest rate

$$A = P\left(1 + rt\right)$$

- Compound interest rate

$$A = P\left(1 + \frac{r}{m}\right)^n$$

- APY

$$APY = \left(1 + \frac{r}{m}\right)^m - 1$$

- Future value of an annuity

$$FV = PMT * \frac{(1+i)^n - 1}{i}$$

- Present value of an annuity

$$PV = PMT * \frac{1 - (1+i)^{-n}}{i}$$