Finance Formulas

Simple Interest: $I = Prt$, $\text{FV} = P(1+rt)$ (r = per year)

Compound Interest: $\text{FV} = P(1+i)^n$ (i = per term)

Ordinary Annuity: $\text{FV} = \text{pymt}\,\dfrac{(1+i)^n - 1}{i}$

Annuity Due: $\text{FV(due)} = \text{FV(ordinary)} \cdot (1+i)$

Legal Loan amount = Loan amount – points – fees

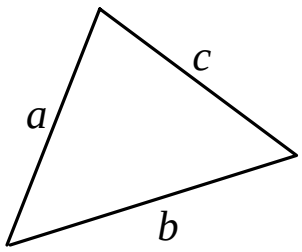
Payout Annuity
Amortized Loan $P(1+i)^n = \text{pymt}\,\dfrac{(1+i)^n - 1}{i}$

Area and Volume Formulas

Sphere: $V = \dfrac{4}{3}\pi r^3$, $A = 4\pi r^2$

Triangle (Heron): $A = \sqrt{s(s-a)(s-b)(s-c)}$

where $s = \dfrac{1}{2}(a+b+c)$



Statistics

Sample Variance: $s^2 = \dfrac{\sum (x - \bar{x})^2}{n-1} = \dfrac{1}{n-1}\left(\sum x^2 - \dfrac{(\sum x)^2}{n}\right)$

Sample Standard Deviation: $s = \sqrt{\text{variance}}$

Margin of Error: $\dfrac{z_{\alpha/2}}{2\sqrt{n}}$ **z-score:** $z = \dfrac{x - \bar{x}}{sd} = \dfrac{x - \mu}{\sigma}$