

Finance Formulas

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

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

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

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

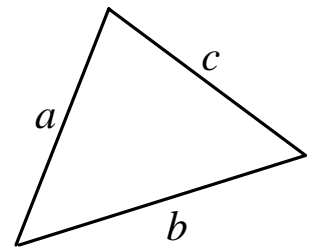
Legal Loan amount = Loan amount – points – fees

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

Area and Volume Formulas

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

Triangle (Heron): $A = \sqrt{s(s - a)(s - b)(s - c)}$
where $s = \frac{1}{2}(a + b + c)$



Statistics

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

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

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