

Formulas for the Final Exam

- Permutations

$${}_n P k = \frac{n!}{(n-k)!}$$

- Combinations

$${}_n C k = \frac{n!}{k!(n-k)!}$$

- Fair-Coin Principle

$$\sigma = \frac{\sqrt{n}}{2}$$

- Unfair-Coin Principle

$$\sigma = \sqrt{n \cdot p \cdot (p-1)}$$

- Capture-Recapture

$$N \approx \frac{n_1 \cdot n_2}{k}$$

- Sum of Degrees Formula

$$d_1 + d_2 + \dots + d_N = 2M$$