

Chap 11 - Counting Methods

11.2

Fundamental Counting Principle

$$n_1 \cdot n_2 \cdot n_3 \cdot \dots \cdot n_k$$

- Sequence of 2 or more separate parts.
- Consider restrictions before other parts.

Factorial Formula

$$n! = n \cdot (n-1) \cdot (n-2) \cdot \dots \cdot 1$$

- Number of distinct arrangements
- $0! = 1$

Arrangements of Distinct Objects

$$n!$$

Arrangements of Like-Kind Objects

$$\frac{n!}{n_1! \cdot n_2! \cdot \dots \cdot n_k!}$$

where n_1 is one kind and n_2 is another kind

