Method of Generating Functions

Principles
Transform $\mathcal{A}_{k} \underset{\rightarrow}{\mathcal{B}} \mathcal{B}_{k}$
Sum $\mathcal{A}_{k}=\mathcal{B}_{k} \amalg \mathcal{C}_{k}$
Product $\mathcal{A}_{k}=\mathcal{B}_{k} \times \mathcal{C}_{k}$
PIE $\mathcal{A}_{k}=\mathcal{C}_{k} \backslash \mathrm{U}_{i} \mathcal{B}_{k, i}$
Involution $\mathcal{A}_{k}=\operatorname{Fix}_{l}\left(\mathcal{B}^{s g n}\right)$
Polya $\mathcal{A}_{k}=\mathcal{B}_{k} / G, G \subset S_{k}$
Graded Principles
解ence

Graded Transform
Sum $\mathcal{A} \amalg \mathcal{B}$
Product $\mathcal{A} \times \mathcal{B}$
Labeled Prod $\tilde{\mathcal{A}} * \widetilde{\mathcal{B}}$
Directed Prod $\tilde{\mathcal{A}}^{\text {min }} * \widetilde{\mathcal{B}}$
Graded Involution

Formula for $A_{k}$

