Research Title   Teacher's Guide to Applications of Generating Functions and Inclusion-Exclusion Formula for Upper Secondary School

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Abstract

The aim of this independent study is that it can be used as a supplementary text or an elective subject hand-book about counting problems for upper secondary school level.

Outlines of the independent study are described in chapter 1. Chapter 2 and chapter 3 are about basic knowledge on set and counting principle. In chapter 4 and chapter 5 generating functions and inclusion-exclusion formula are explained in details and in suitable ways for teachers and students. It would enable them to apply the methods in solving wider classes of counting problems.

The method of approach in each topic is done by giving several examples first before stating conclusions or theorems. In this way the readers would take less effort in trying to understand the subject.