

MAT414 - Modern Algebra

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Permutation Groups

Definition

Permutation of A , Permutation Group of A

A permutation of a set A is a function from A to A that is both one-to-one and onto. A *permutation group* of a set A is a set of permutations of A that forms a group under function composition.

Example 1

Symmetric group S_3 .

Example 2

Symmetric group S_n .

Example 2

Symmetric group S_n .

What is $|S_n|$?

Example 3

Symmetries of a square.