

1. Record Nr.	UNINA9910480733003321
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Titolo	Permutation Groups [[electronic resource] /] / by John D. Dixon, Brian Mortimer
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 1996
ISBN	1-4612-0731-2
Edizione	[1st ed. 1996.]
Descrizione fisica	1 online resource (XII, 348 p.)
Collana	Graduate Texts in Mathematics, , 0072-5285 ; ; 163
Disciplina	512.66
Soggetti	K-theory K-Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
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Sommario/riassunto

Permutation Groups form one of the oldest parts of group theory. Through the ubiquity of group actions and the concrete representations which they afford, both finite and infinite permutation groups arise in many parts of mathematics and continue to be a lively topic of research in their own right. The book begins with the basic ideas, standard constructions and important examples in the theory of permutation groups. It then develops the combinatorial and group theoretic structure of primitive groups leading to the proof of the pivotal O'Nan-Scott Theorem which links finite primitive groups with finite simple groups. Special topics covered include the Mathieu groups, multiply transitive groups, and recent work on the subgroups of the infinite symmetric groups. This text can serve as an introduction to permutation groups in a course at the graduate or advanced undergraduate level, or for self-study. It includes many exercises and detailed references to the current literature.