#### PREPARATION OF REPORTS

#### MATHEMATICS BRANCH

It is the intention of the Mathematics Branch (Code 432) of the Office of Naval Research to reduce the burden involved in the preparation of reports for this program so that the maximum effort can be placed in the performance of research.

Nevertheless, reports are needed and these are ordinarily of two types:

(a) Technical Reports, which present the results of research

(b) Administrative Reports, which keep us informed of the status of your project.

#### TECHNICAL REPORTS

A technical report should be prepared when a specific phase of work has been completed or when important results of general interest are obtained. Technical reports obviously will not be issued at regular intervals.

#### Format

Common sense (in addition to the "Government Printing and Binding Regulations") precludes the use of expensive or non-standard printing presentations. Adhering to the established format and mode of reproducing documents in your own department is entirely satisfactory. The sole exception is that all text reproductions should be black on white; duplication processes which produce purple copies are not suitable for subsequent Defense Documentation Center microfilming. If only purple copy duplication equipment is available, the ONR Scientific Officer should be advised prior to distribution of reports.

#### Acknowledgement and Identification

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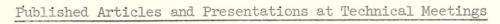
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Published articles are also considered as technical reports, and should be listed when citations of technical reports are desired. However, it will not be necessary to send reprints of published articles to the distribution list, if the article is available in the open literature. Two copies should be sent to the Office of Naval Research, Code 432.





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# Books

Books resulting from sponsored research should be included as technical reports, and should carry acknowledgements in the same way. Books should not be disseminated to the distribution list because of the cost. ONR will require a limited number of copies of books resulting from contracts. The ONR Scientific Officer should be advised when the publication of a book is imminent and he will specify the required number of copies to be purchased from contract funds.

# Release of Technical Reports to Abstractors

Principal investigators may send copies of their technical reports to abstracting services if they wish. Abstractors should note the availability of reports from the Clearinghouse and DDC in their abstracts.

#### ADMINISTRATIVE REPORTS

# Status or Progress Reports

The ONR Scientific Officer serves as the focus for inquiries from many government activities and must provide up-to-date information, not only for internal ONR needs but for other government agencies as well. Consequently, it is necessary for the Scientific Officer to be well informed on the status of research tasks. This is normally accomplished not only through technical reports, but also through visits, informal meetings, telephone conversations and "progress or status reports."

Status reports may be informal reports in the form of a letter. A status report should serve to keep the Scientific Officer informed of research results, work in progress, and relative administrative details such as changes in personnel and reports on trips and visitors. In particular, they should list the individuals who worked on the contract during the quarter, the portion of their time devoted to the contract, and any reports completed, publications appearing in print during the period covered, and manuscripts submitted for publication. Write-ups of important results or accomplishments are particularly welcome.

Status reports are treated as privileged communications for use only within ONR or other agencies contributing to the support of a contract.

These reports should be sent to ONR, Code 432 if a three month period elapses without any information exchange with the Scientific Officer, or when there is information to report on. The annual report mentioned below also serves as a status report.

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# Annual Report

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A special request calling for an annual summary report is sent each fall. This summary is used in the preparation of the comprehensive annual ONR report.

# Final Report

A final report should be issued on termination of a project. This is not required when contracts are renewed or extended. It should include a list of personnel who have worked on the project, bibliography of all technical reports and publications, and a summary of any additional work accomplished during the contract period.

#### STANDARD FORMS USED

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13. ABSTRACT

This paper deals with some multiple decison (ranking and selection) problems. Some relevant distribution theory is given and the associated confidence bounds are derived for the differences (ratios) between the parameters. The selection procedures select a non-empty, small, best subset such that the probability is at least equal to a specified value P that the best population is selected in the subset. General results are given both for the unknown location and scale parameters of the k populations. Some desirable properties of these procedures are studied and proved. Selection of a subset to contain all populations better than a standard is also discussed. Performance characteristics of some procedures for the normal means problem are studied and tables are given for the probabilities of selecting the ith ranked population and for the expected proportion and the expected average rank in the selected subset. A brief review of work by other authors in the problems of selection and ranking and in other related problems is given.

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