

Task Description (SCAMP)
Special Committee advising on Mathematical Problems

It is desired that ONR have set up a facility for conducting a summer seminar under the direction of a competent mathematician.

Among the areas to be explored are:

- 1) Matrix algebra, with emphasis on computational methods of solving matrix equations of the type $X^{-1}RX = B$, or sets of equations of the type $X^{-1}R^sX = A_s$, where the constants A_s are fragmentary.

$$\text{Also } X^{-1}R^sY^{-1}R^{-s-t}YR^{-t}X = B_{s,t}.$$

- 2) Group theory, with emphasis on characters of finite substitution groups.
- 3) Combinatorial Topology, stressing the computation of properties in the large from definitions describing graphs in the small.
- 4) Logical reduction of hypotheses. Given a large number of statements with rules determining if a pair are consistent or inconsistent, to find the largest subset of pairwise consistent statements.