formal mastery of school mathematics. Original thinking, often of a very high order, is necessary for most of them. The book will prove to be a most useful mine of ideas for teachers and examiners looking for ideas for questions off the beaten path. Many of the questions should be excellent as supplementary material to stimulate the interest of bright pupils, and to help them to sharpen their mathematical wits. Over three-quarters of the book is devoted to detailed solutions, and, for those who want a hint rather than a full solution, there is a final section containing answers and hints. The volume is beautifully produced.

R. A. RANKIN

AUSTWICK, K., *Logarithms* (Pergamon Press, 1962), xiii+102 pp., 8s. 6d.

This book is intended for use up to "O" level in schools, for self-tuition, and by teachers insufficiently qualified in the subject. It confines itself to the use of 4-figure log tables in computation. Two methods are followed. Method 1 is based on showing that, by following standard procedures, the tables work. Method 2 is slightly more theoretical and assumes the index laws for rational indices. In the earlier chapters these methods alternate: in the last three they gradually merge. A key in the first chapter allows their separate study.

Of the potential users indicated, those most likely to benefit are the self-taught. Schools are likely either to adopt a slide-rule approach instead of Method 1, or to base their equivalent of Method 2 on a sound knowledge of the index laws, leading either to the use of powers of 10, or to that of standard form. As for the insufficiently qualified teacher, he or she ought not to be content with the skeleton theory given here.

No numerical errors have come to light, but it should be pointed out that on pp. 19, 20 and 25 the text ignores the distinction between a power of 10 and its index.

Great care has been taken by the author; the examples are excellent and printing and lay-out are excellent. It is a pity that the restricted scope must inevitably limit the book's appeal.

S. READ

MAXWELL, E. A., *Deductive Geometry* (Pergamon Press, 1962), xiii+176 pp., 12s. 6d.

This assumes initial "O" level attainment, and is a first-class introduction to "A" and some traditional "S" level topics in Pure Geometry by an acknowledged master. The omission of a few "S" topics, e.g. ranges in involution, is more than compensated for by the inclusion, in Chapters 10 and 11, of up-to-date basic ideas on spherical trigonometry, and on translations, rotations, expansions, of a figure.

As much of the notation of set theory as needed later, is explained in an introductory chapter and is then used where appropriate throughout. The result is a great gain in conciseness and clarity, besides effecting a useful junction with the use of similar notation in other branches of a pupil's mathematics. In only one place is a trace of possible nostalgia noticeable, on p. 33, where the lengthier translation into set language of the compact, metaphoric "D' is the mirror image of H in BC," is tactfully relegated to a parenthesis.

The examples at the ends of chapters demand mainly the proof by the pupil of further standard theorems, though there are occasionally a few additional problems. Excellently printed and produced, this is a fine book for sixth-form pupil and teacher alike.

S. READ