This tensor vanishes identically for a projective space of two dimensions. For spaces of three or more dimensions, the Weyl projective curvature tensor vanishes if and only if the given affine space is projectively equivalent to a flat space.

Although the book seems to lack geometrical motivation, the material is presented in a very understandable fashion. The ideas and concepts are given very concisely and thus a wide range of subjects is covered. This book is a very worthwhile introduction to the subject for a beginning student of the absolute differential calculus and its applications.

JOHN DECICCO

BRIEF MENTION

The hodograph method in gas dynamics. By A. G. Ghaffari. Teheran, Taban, 1950. 129 pp., 19 figs.

This book gives an introductory account of one of the most interesting methods in gas dynamics, the hodograph method. Particular emphasis has been given to approximate methods (Chapters IV, V, VII), including some of the author's own work. Chaplygin's method and its current developments are discussed briefly in Chapter III, while Chapter VI gives a rather detailed account of Bergman's method. A clear presentation of the standard material in gas dynamics is given in Chapters I, II, III, and VIII. The book contains a preface by Professor G. Temple which concludes with the statement: "This book can be confidently recommended to students of aerodynamics who desire an elementary survey of the theory and use of the Hodograph method."

C. C. LIN

Gelöste und ungelöste mathematische Probleme aus alter und neuer Zeit. By Heinrich Tietze. Munich, Biederstein, 1949; vol. 1, 20+256 pp.; vol. 2, 4+305 pp.

This is one of the deepest and at the same time the most charming of the popular books on mathematics that I have ever seen. In two moderate sized volumes Tietze presents fourteen lectures, on topics as diverse as digital representations of integers, distribution of primes, properties of geodesics on surfaces, dimension theory, the regular 17-gon, solution of equations by radicals, and the concept of infinity. The lectures are addressed to a lay audience. A mathematically untrained reader of the book (assuming that he has no difficulty with Tietze's picturesque German) can get a lot of understanding and

enjoyment from the exposition. This is true even if the reader's training is so slight as not to include any trigonometry. At the other extreme, it is very likely that the reader who is a professional mathematician will encounter facts and tricks new to him. I do not mean to say that Tietze's book contains material that is not already available in the literature, but the chances are that only a few mathematicians are acquainted with *all* the interesting and special information that the book contains. Even the trite and altogether too famous problems (such as angle trisection, map coloring, circle squaring, and Fermat's last theorem) receive fresh treatment at Tietze's hands. In connection with the coloring problem, for instance, Tietze discusses the problem for maps in which a country need not be a connected set but is allowed to have several components. Here, as elsewhere, the book is documented in a careful, scholarly manner. About a fourth of each volume (the last fourth) is devoted to notes in which one can find sometimes the mathematical derivation of facts merely stated in the text, at other times indications of generalizations, and, at all times, precise references to the sources of the material. There are several photographs of famous mathematicians, and there is a detailed and usable index.

If the book were in English, it would be ideal for the bright undergraduate and for the interested but uninformed layman; translating it might well turn out to be a profitable venture for someone. As it is, it is at least an ideal source of inspiration for the mathematician who is asked to deliver a popular lecture; I think every mathematical library ought to contain a well-thumbed copy.

PAUL R. HALMOS