

“Recherche des Racines primitives d'un Nombre premier p.” The idea of limit is introduced in connection with fractions, irrationals are connected with square root, logarithms with progressions. Classical theorems and concepts are introduced throughout the book: Euclid's proof of the infinitude of primes, sieve of Eratosthenes, number of divisors and sum of divisors of an integer, Cauchy's indicator, elementary theory of the congruence, Fermat's minor theorem, Wilson's theorem.

Possibly a book of this type needs no references, although some would probably lead a few readers to wider study. The book contains numerous good examples, but is without problems or stimulating questions for its reader. It is an engaging monograph with hardly a typographical flaw, and the reviewer believes that it will be of service either to organize and clarify the mathematical thinking of the younger or to direct students into number theory.

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*Latitude Developments Connected with Geodesy and Cartography.* By Oscar S. Adams. Washington, United States Coast and Geodetic Survey, 1921. Special Publication No. 67. 132 pp.

*Elements of Map Projection.* By Charles H. Deetz and Oscar S. Adams. Washington, United States Coast and Geodetic Survey, 1921. Special Publication No. 68. 160 pp.

The first of these little books discusses the various “kinds of latitude” that arise in questions connected with geodesy and cartography. Five of these are discussed; namely, 1. *Geodetic, or astronomical, latitude* is the angle which the normal to the earth's surface at any point makes with the major axis of the meridian ellipse through the point; 2. *Geocentric latitude* is the angle which the radius vector makes with the major axis; 3. *Parametric latitude* is the parametric angle when the equation of the meridian ellipse is written in the usual parametric form; 4. *Isometric latitude* is connected with the conformal representation of the earth upon a sphere; 5. *Authalic latitude* is connected with the “equal area” representation of the earth upon a sphere (authalic from Tissot).

The book deals with formulas giving the last four in terms of the first and the eccentricity of a meridian. The formulas are applied to the Clarke spheroid of 1866, and there is a complete table for changing from one latitude to another.

The second book, as its title indicates, is devoted to various methods for constructing maps of the earth's surface, to a discussion of the advantages and disadvantages of each, and to the relative distortions introduced by each. The first half of the book is mostly descriptive and is geometrical in character. The latter half contains a full development of the Mercator projection with tables for computation, and also a mathematical discussion of various other projections. There is an explanation of the French “grid system” so much in use during the war.

The book has many excellent diagrams and maps and can be read by any one familiar with the calculus.

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