Questions d'Arithmétique, by B. Niewenglowski. Paris, Librairie Vuibert, 1927. viii+225 pp.

This is an entirely elementary book on the rudiments of the theory of numbers, in which induction and proof are agreeably mixed to bring out the spirit of the arithmetical approach. It is difficult, however, to see for what class of readers the work is intended. From an American point of view it is too elementary and insufficiently scientific to be of interest to even first-year college students. It is of about the grade that would stimulate an intelligent high school senior with a taste for abstract mathematics.

It is unnecessary to go into detail on the contents of the book. Chapter I is devoted to curiosities; Chapter VIII to the theorems of Fermat and Wilson, including the elements of the theory of quadratic residues and the law of reciprocity; Chapter IX, the last in the book, gives numerous instructive numerical examples on the Pellian equation. The treatment throughout is more like what one would expect to find in a book of mathematical curiosities than that appropriate to a serious treatise on the theory of numbers. Nevertheless the book is highly interesting, with many fresh touches, and one that is likely to stimulate young readers. Misprints are frequent, but not serious to fairly sophisticated readers. Some of them might bother the beginners for whom the book seems to be written.

E. T. BELL

Vorlesungen über Höhere Geometrie. By Felix Klein. Third Edition. (Die Grundlehren der mathematischen Wissenschaften in Einzeldarstellungen, Band XXII.) Berlin, Julius Springer, 1926. viii+405 pp.

Among the many courses of lectures by Klein that began to appear over forty years ago in "autographic" editions none has been more stimulating than that on Higher Geometry which first appeared in 1893. It was based on the ideas developed in his famous Erlanger Program of 1872 entitled *Vergleichende Betrachtungen über neuere geometrische Forschungen,* in which he established the group of transformations as the fundamental principle of classification in geometry. The course of lectures on Higher Geometry exhibited the whole of geometry from the group-theoretic point of view.

The original edition consisted of two volumes. The book now under review contains what is virtually a reprint of the first of these volumes, Professor W. Blaschke acting as editor. The mathematical public will hail this new edition, not only because in printed form it is much easier to read, but also because the former editions are difficult to obtain. It is one of the classics of our mathematical literature and should be permanently available.

The second volume of the original edition was devoted to Lie's theory of groups of transformations. In view of more recent developments a new edition of this second volume would have required extensive revision and rewriting. Professor Blaschke has, therefore, omitted it entirely from the new edition. In place of it, he has added one hundred pages of entirely new material, giving in five chapters some of the more recent developments in higher geometry. These last five chapters are especially interesting and