

1046-01-690

Kim Plofker* (kim_plofker@alumni.brown.edu), Department of Mathematics, Union College, Schenectady, NY 12308. *A medieval Muslim mathematician looks at Indian arithmetic: Al-Biruni's treatise on Sanskrit rules of proportion.*

Rules on various kinds of proportions, from the familiar “Rule of Three” on up as far as the “Rule of Eleven”, formed an important part of Sanskrit arithmetic texts in medieval India. The Central Asian mathematician al-Biruni, who studied Sanskrit mathematics and astronomy in northern India in the early eleventh century, was sufficiently intrigued by these rules to write an Arabic treatise comparing them to Euclidean notions of ratio: the *Maqāla fī rāshikāt al-Hind*, or “Treatise on Proportions of the Indians”. We examine the way al-Biruni treated his subject, why he thought it was important, and what its consequences were for the interaction of Indian and Islamic mathematics. (Received September 10, 2008)