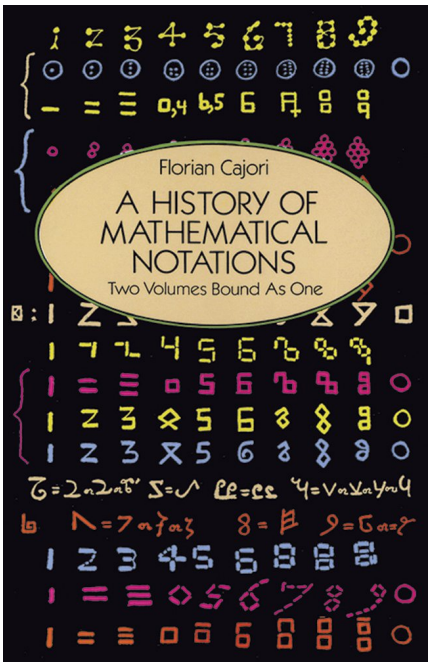
Supplement. A History of Mathematical Symbols (up to 1600)

Note. In this supplement, we gather together the information on the history of symbols covered so far in the class, and add many details. Other than Howard Eves' *An Introduction to the History of Mathematics*, 6th edition (Saunders College Publishing, 1990), we consider two other books and one collection of websites:



MacTutor

Earliest Uses of Symbols of Operation

1. Joseph Mazur *Enlightening Symbols: A Short History of Mathematical Notation and Its Hidden Powers* (Princeton University Press, 2014).

2. Florian Cajori, *A History of Mathematical Notations, Volume I: Notations in*

Elementary Mathematics (Open Court Publishing, 1928; also Dover Publishing, 1993 [both volumes]).

3. The MacTutor webpages on "Earliest Uses of Symbols of Operation" (accessed 7/15/2023).

Note. We are mostly interested in the symbols which we use today. We have thoroughly covered the history of the Hindu-Arabic numerals in Section 1.9. The Hindu-Arabic Numeral System, and their spread from India to the Arabic world, and then throughout Europe in Section 1.9, Supplement. Leonardo of Pisa (Fibonacci) and the *Liber abbaci*, and Section 8.6. The Early Arithmetics (where the popularity of the numbers grew through the use of abbacus books or "arithmetics"). So we largely leave the topic of numeral systems to these other sections, other than to call special attention to the Greek alphabetic numerals (of Section 1.6. Ciphered Numeral Systems; due to the large influence of Greek mathematics on so much of the history of math) and the Roman numerals (see Section 1.4. Simple Grouping Systems; since they dominated so much of the "western world" before the European renaissance).

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