

# Math History

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## HISTORY OF ADDITION AND SUBTRACTION SYMBOLS

Plus (+) and **minus (-)**. Nicole d' Oresme (1323-1382) may have used a figure which looks like a plus symbol as an abbreviation for the Latin *et* (meaning "and") in *Algorismus proportionum*, believed to have been written between 1356 and 1361. The symbol appears in a manuscript of this work believed to have been written in the fourteenth century.

The plus symbol as an abbreviation for the Latin *et*, though appearing with the downward stroke not quite vertical, was found in a manuscript dated 1417 (Cajori).

The + and - symbols first appeared in print in *Mercantile Arithmetic or Behende und hüpsche Rechnung auff allen Kauffmanschafft*, by Johannes Widmann (born c. 1460), published in Leipzig in 1489.

**At the right is an image of the first use in print of the + and - signs**, from Widman's *Behende vnd hüpsche Rechnung*. This image is taken from the Augsburg edition of 1526.

Smith (vol. 2, page 398) explains the origin of the + sign by connecting it to the Latin word for "and":

In a manuscript of 1456, written in Germany, the word *et* is used for addition and is generally written so that it closely resembles the symbol +. The *et* is also found in many other manuscripts, as in "5 et 7" for 5 + 7, written in the same contracted form, as when we write the ligature & rapidly. There seems, therefore, little doubt that this sign is merely a ligature for *et*.

Cajori says, "There is clear evidence that, as a lecturer at the University of Leipzig, Widmann had studied manuscripts in the Dresden library in which + and - signify operations, some of these having been written as early as 1486."

Giel Vander Hoecke used + and - as symbols of operation in *Een sonderlinghe boeck in dye edel conste Arithmetica*, published at Antwerp in 1514 .

The plus and minus symbols only came into general use in England after they were used by Robert Recorde in in 1557 in *The Whetstone of Witte*. Recorde wrote, "There be other 2 signes in often use of which the first is made thus + and betokeneth more: the other is thus made - and betokeneth lesse."

The plus and minus symbols were in use before they appeared in print. For example, they were painted on barrels to indicate whether or not the barrels were full. Some have attempted to trace the minus symbol as far back as Heron and Diophantus.

