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When solving a problem by algebra, early Arabic mathematicians would not state an equation until all the operations posed in the enunciation had been worked out. Thus an equation merely asserted the equivalence of two accumulations of treasures (x^2), things (x), and dirhams (units). By a careful study of the words used for “equals” in arithmetic, geometry, and metrology, and with the help of a quote from al-Bīrūnī, we show that equations were initially understood as a balancing of collections of abstract, mathematical “coins”. There was a shift toward our modern understanding in al-Karājī, which was repeated in Europe in the work of Cardano and Bombelli. It was Viète, though, who completely overturned the medieval notion of “equation” and initiated our modern understanding. (Received September 14, 2005)