1054-18-135 Christopher L Douglas* (cdouglas@math.berkeley.edu), Department of Mathematics, University of California, Berkeley, CA 94720, and Andre Henriques. 3-Categories for the Working Mathematician.

We present a definition of tricategories that is finite, transparent, and completely explicit. We prove that categories internal to the 3-category 2CAT, and also bicategories internal to the 2-category CAT have underlying tricategories in this sense, and discuss the relationship of tricategories to other models of weak higher categories, such as weak complicial sets. Time permitting we will mention natural examples, studied in joint work with Bartels, fitting our model of tricategories, such as conformal nets and tensor categories. (Received September 10, 2009)