1046-Z1-817   **Betsy Darken*** (`betsy-darken@utc.edu`), Mathematics Department # 6956, University of Tennessee at Chattanooga, 615 McCallie Ave., Chattanooga, TN 37403. *Facing Up to the Realities of Quantitative Illiteracy: Do You Know What Your Students Do NOT Know about "Basic" Mathematics?*

Next time you encounter some math students, consider asking them the following questions: (1) What is the fraction form of 33 and a third percent? (2) How much will you save if you buy an item at a 25 percent off sale and its sale price is $360? (3) Write 0.0004 as a simplified fraction. (4) Your swimming pool is 20 feet by 30 feet by 4 feet 6 inches and you are filling it with water coming in at a rate of 4.5 gallons per second. Find out how long it will take to fill an empty pool; it may be helpful to know that 1 gallon contains 231 cubic inches. (5) What is 4 divided by 0 and why do you think so? In this talk I will present the results of research studies on questions of this sort, including results from the National Assessment of Educational Progress, studies of college students, and surveys of American adults. These data indicate that there is a shocking lack of understanding of certain areas of mathematics that college math professors tend to think of as "middle school mathematics." I will present data indicating that even calculus students have weaknesses in these areas. I will also describe an endeavor to deal with this problem head-on, along with the trials, tribulations, and thrills attendant thereto. (Received September 11, 2008)