1046-Z1-71   **Carlos R. Bovell*** (`carlosbovell@yahoo.com`). *What is mathematics and what kind of answers will satisfy this question?*

What is mathematics? When some respond to this question, they urge that the answer must be meaningful to "working mathematicians": they say that if one is interested in knowing what mathematics is then that person should begin by looking at what mathematicians do. But this helpful first step has led to the suggestion that mathematics is what mathematicians do. Yet doing mathematics is a first-order activity and inquiring into what mathematics is is a second-order activity. Discussions treating the relationship between first- and second-order activities go at least as far back as Plato's dialogues. In my talk, I argue that Socrates was right being unsatisfied with first-order answers to his second-order questions. He correctly surmised that his second-order questions are of a rather different sort than their first-order counterparts. In much the same way, any answer that boils down to "mathematics is what mathematicians do" cannot prove altogether satisfactory as a response to the question, "what is mathematics?" (Received July 21, 2008)