



**PURDUE UNIVERSITY**

**Department of Mathematics Colloquium**

Speaker: Professor Guershon Harel, University of California at San Diego  
Title: "A Definition of Mathematics and Its Pedagogical Consequences"  
Date: Tuesday, February 17, 2009  
Time: 4:30 P.M.  
Place: MATH 175

**Abstract**

Judging from current textbooks and teaching practices, teachers at all grade levels, including college instructors, tend to view mathematics in terms of subject matter, such as definitions, theorems, proofs, problems and their solutions, and so on, not in terms of the conceptual tools that are necessary to construct such mathematical objects. While knowledge of and focus on subject matter is indispensable for quality teaching, we argue it is not sufficient. Teachers should also concentrate on conceptual tools such as problem-solving approaches and beliefs about mathematics, which, we argue, constitute an important category of knowledge different from the subject matter category. Two main questions will be addressed in this presentation: What exactly are these two categories of knowledge? And at is the basis for the argument that both categories are needed?

Refreshments will be served in the Math Library Lounge at 4:00 p.m.