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### **MSRI Education Workshop: What math do teachers need to know?**

Mathematicians will join classroom teachers and researchers for a 3-day workshop, **The Mathematical Knowledge for Teaching (K-8): Why, What and How?** May 25-28, 2005. Sponsored by the Mathematical Sciences Research Institute (MSRI) in Berkeley, CA, the workshop will be held at Asilomar conference center in Pacific Grove, CA.

Recent research indicates a positive correlation between certain kinds of mathematics that teachers know and the performance of their students. “On the surface, it might appear that school mathematics is just simple arithmetic,” observes University of Michigan mathematician Hyman Bass, “but there is an underlying body of mathematics that a teacher needs to know to teach this content well. That mathematics is both specialized and sophisticated.” Measuring this knowledge has customarily taken the form of collecting data on how many advanced mathematics courses teachers take in college. In recent years, however, researchers have taken a real-time approach, using video cameras to record and study elementary classroom teachers working with their students during mathematics lessons and studying their use of mathematics in the course of teaching. Based on such studies, new measures of mathematical knowledge for teaching are leading to more precise understanding of the kind of subject matter knowledge that makes a difference for the quality of teaching.

One of the highlights of the upcoming May workshop will be a mathematics test that all participants will take. “This test is different from an aptitude test, or from the type of test that teachers have to pass in order to be certified,” explains conference organizer Deborah Ball of the University of Michigan. “It will give participants the opportunity to experience firsthand the sorts of mathematical problems that arise for teachers in the course of their work.”

This MSRI education workshop is supported by grants from the National Science Foundation, the Noyce Foundation, Math for America Foundation (MfA), Texas Instruments, and the Mathematics Teaching and Learning to Teach Project at the University of Michigan. MSRI is an independent, non-profit organization supported by eighty leading international universities, the private sector, and the National Science Foundation. For more information, see the MSRI workshop description and schedule:

[http://www.msri.org/calendar/workshops/WorkshopInfo/318/show\\_workshop](http://www.msri.org/calendar/workshops/WorkshopInfo/318/show_workshop)

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