

Basic Characteristics Important for Math Teaching

By H. Wu¹

Precision. Mathematical statements are clear and unambiguous. At any moment, it is clear what is known and what is not known.

Definitions. They are the bedrock of the mathematical structure. They are the platform that supports reasoning. No definitions, no mathematics.

Reasoning. The lifeblood of mathematics. The engine that drives problem solving. Its absence is the root cause of teaching- and learning by- rote.

Coherence. Mathematics is a tapestry in which all the concepts and skills are interwoven. It is all of a piece.

Purposefulness. Mathematics is goal-oriented, and every concept or skill is there for a purpose. Mathematics is not just fun and games.

¹H. Wu: The Mathematics K-12 Teachers Need to Know. December 19, 2008. Retrieved from <http://math.berkeley.edu/~wu/Schoolmathematics1.pdf> on January 13, 2011.