MAPLE T.A.
A SPRINGBOARD FOR WEB-BASED TESTING AND ASSESSMENT

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Abstract

Maplesoft products have helped institutions offer more progressive instruction to students in mathematics, engineering, and science for over twenty years. Their software tools have made flexible and intelligent mathematical computing an essential component of modern education. They are a major supplier of maths software tools to educational and commercial institutions in the UK, Europe and North America.

Maple T.A. is a web-based tool for testing and assessment of any mathematical concepts and builds on this rich history by combining Maplesoft's extensive education experience with the best in online technology. Maple T.A. supports complex, free-form entry of equations and intelligent evaluation of responses that can test for algebraic equivalence, making this system ideal for mathematics, science, or any course that requires mathematics. It is ideal for placement testing, homework delivery, drill and practice, exam questions and assignments, high stakes testing, standards and gateway testing, and "just in time" teaching.

Maple T.A. has the full power of the advanced mathematical software Maple behind it. Maple has the ability to represent and solve problems in calculus, linear algebra, abstract algebra, vector calculus, statistics, number theory, group theory, and more. The Maple engine can determine mathematical equivalences, and automatically grade the student response appropriately. Like a human teacher, Maple T.A. will detect when the response is equivalent to the programmed answer, instead of doing a mindless simple comparison. Maple T.A. can display MathML, so all equations look the same as they do in your textbook Students can use palettes and a math expression editor with free-form input, so they can enter their responses in the same way they would write them down. To simplify entry, a 1-D graphing calculator is available. The student then has the option of previewing the equivalent 2-D expression before submitting their response. Maple T.A. includes built-in unit support for

many common types of measurement. Equivalent answers will be graded correctly. For more obscure measurement systems, Maple T.A. can be programmed to evaluate the problem. Maple has an extremely thorough coverage of units. Maple T.A. can be used directly from inside your Blackboard classes.

This presentation gives an overview of Maple T.A. The general features and philosophy will be explored, followed a practical demonstration of the product, filtered through both the student and teacher experience.

Adept Scientific are the full-service partners for Maplesoft in the UK and Northern Europe, and have delivered technical computing solutions to mathematicians, scientists and engineers for over twenty years.