

1056-BD-584

Michael E. Gage* (gage@math.rochester.edu), Department of Mathematics, University of Rochester, Rochester, NY 14627. *WeBWorK: Open source on-line homework system for mathematics.*

I'll present an overview of WeBWorK, the open source on-line homework system designed specifically for mathematics and math intensive homework. On-line homework's immediate feedback makes a dramatic change in the amount of effort students put into doing homework and encourages them to ask focused questions in class and in office hours. WeBWorK can easily check answers which include functions, equations, and vectors as well as numbers and can be extended to check any answer whose correctness can be determined algorithmically. WeBWorK currently has a library of over 16,000 contributed problems and growing, including nearly every typical question used in calculus, precalculus, matrix linear algebra, differential equations and statistics courses.

Ongoing community projects are (1) to curate this question collection so that it is more profitable to find existing problems than to reinvent them and (2) to explore further the added dimensions that interactive electronic media provide beyond those available in book homework by incorporating flash, java and Geogebra applets into WeBWorK questions. (Received September 13, 2009)