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## Abstracts of Short Communications and Posters

### Section:

## 18. Teaching and Popularization of Mathematics

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**Three Response Types for Broadening the Conception of Mathematical Problem Solving in Computer-Graded Tests**

Many standardized tests use multiple-choice questions, because they can be automatically scored. But most college and university math tests are not multiple choice, since constructed response questions are thought to be a much better measure of Mathematical reasoning. This talk will present three types of questions. These question types are an attempt to close the gap between what can be scored using a computer, and the type of questions mathematics faculty think should be tested. The first type is mathematical expressions, where the student response is an algebraic formula. The second type is generating examples, where the questions are underdetermined, so that there may be an infinite number of correct answers; and the third type is graphical modeling, where the student response is a graph or geometric figure.