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James H. Fife* (jfife@ets.org), Educational Testing Service, Princeton, NJ 08541. *Automated Scoring of Graphs.*

To test a student's ability to create graphs, various interfaces have been developed that enable students to enter a graph as a response to a computer-delivered test question and various procedures have been developed to score such responses. One approach is for students to plot points and the interface then draws a curve connecting the points. The student's score is based on the points that are plotted. It is easy to score such a response if the question asks that a particular curve be drawn. But sometimes a student may be asked to draw a curve with certain qualitative properties. To score a response to such a question, it must be determined from the points that the student has plotted if the curve drawn has the required properties.

In this presentation, I will describe work in developing the required techniques to score graph responses based on qualitative features of the graph. We compiled a list of 30 response features that could contribute to a score. For each feature, we found necessary and sufficient conditions on the plotted points for the curve to have the required feature. Scoring models were then written that could score responses based on the presence or absence of the required features. (Received September 09, 2014)