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AMS

1035-Z1-1778 **Melissa A Desjarlais***, 1900 Chapel Drive, Valparaiso, IN 46383. *Gender Differences in Mathematics Performance-A Pilot Study.* Preliminary report.

During the past few decades there has been significant interest in the mathematics education community about possible gender differences in mathematics performance. Numerous studies have been conducted, and while some have found gender differences, the type and the magnitude of the differences do vary. Each year more than 100,000 students, located throughout the United States and approximately 20 other countries, take the American Mathematics Competition's AMC 8 test. Results from this test create a large data set which can be analyzed to attempt to answer questions related to possible gender differences in mathematics performance. Performance on individual questions and on types of questions, as classified by the NCTM math content standards, is compared. Performance on individual questions can be analyzed using Differential Item Functioning techniques. Results from statistical analyses of this data will be presented and possible interpretations of the data will be given. (Received September 20, 2007)

1035-Z1-1802 **Elizabeth A. Stanhope*** (stanhope@lclark.edu), 0615 SW Palatine Hill Road, Portland, OR 97219-7899, and **Emily Dryden, Jeanie Karns, Wai Chit Lam** and **Matt Lang.** *Spherical Superbowl? In Search of a Round Football.*

Is it possible for an (American) football to be round? A first reaction is: "Of course not! A football has two pointy ends!" So lets rephrase the question slightly. Is it possible for a football to have constant spherical curvature at all points except its sharp ends? We'll use the NCAA definition of a football and some calculus to answer this question. (Received September 20, 2007)

1035-Z1-1811 **John C. Merkel*** (jmerkel@morehouse.edu), Morehouse College, 830 Westview Drive, S.W., Atlanta, GA 30314. *Efficacy of Peer-led Team Learning in Calculus I at Morehouse College.*

In Peer-led Team Learning (PLTL) teams of 4-6 students engage in collaborative learning guided by a peer leader. Peer leaders, who attend a training workshop and work closely with the instructors, are students who have successfully completed the course. In this study we report on the efficacy of PLTL on course grades and pass/fail rates in calculus I courses. (Received September 20, 2007)

1035-Z1-1829 **Larry Wayne Lewis*** (llewis@spalding.edu), Spalding University, 851 S. 4th Street, ADM 117, Louisville, KY 40203. *Chebyshev's Inequality for Fuzzy Random Variables.*

Classical statistics resides at the kernel of a more general fuzzy statistics. This fuzzy statistics which is both useful and mathematically rigorous includes, not precludes, existing classical statistical theory. Such a fuzzy statistics exists in theory and in practice; and, traditional theorems of classical discourse possess theoretical analogs where fuzzy number data (and, therefore real number data, since the set of real numbers is a proper subset of the set of fuzzy numbers) are permitted. The classical Chebyshev's Inequality can be generalized to include fuzzy random variables that permit fuzzy number members. (Received September 20, 2007)

1035-Z1-1834 **Gabriela R Sanchis*** (sanchisgr@etown.edu), Department of Mathematical Sciences, Elizabethtown College, One Alpha Drive, Elizabethtown, PA 17022. *Calculus Activities Inspired by the History of Mathematics.*

The history of the calculus is a fascinating story, inspired by the search for solutions to interesting problems. In this talk, I will discuss several activities that I have developed inspired by the history of the calculus. Many of them make use of the software Geometer's Sketchpad. The activities are suitable to be used as computer laboratory assignments in a Calculus I or Calculus II class. (Received September 20, 2007)

1035-Z1-1846 **Angela Marie Hodge*** (Angela.Hodge@ndsu.edu), 302A MInard Hall, P.O. Box 5075, Fargo, ND 58105. *A Seminar for Pre-Service Teachers on the Teaching of College Algebra.*

Researchers are trying to understand which undergraduate learning experiences will help pre-service secondary mathematics teachers (PSMTs) develop practices that align with reform-oriented movements. The purpose of this research is to contribute to the understanding of educational experiences that will afford PSMTs the learning of practices for teaching secondary mathematics. A cohort of PSMTs (n = 11) was purposively selected for this study. These PSMTs were enrolled in a Teaching Algebra Seminar that allowed them to teach a section of a College Algebra course and reflect upon their practices with peers and a mathematics professor. Questionnaires, interviews, and field notes were used as data sources to understand what PSMTs learned in this course related to mathematically-oriented practices of teaching. The aspects of the Teaching Algebra Seminar that promoted these changes may inform the design of mathematics teacher education programs and related mathematics courses. (Received September 20, 2007)