

**Meeting:** 1003, Atlanta, Georgia, MAA CP D1, MAA Session on Mathematics and Sports, I

1003-D1-86            **Murray H. Siegel\*** ([siegel@gssm.k12.sc.us](mailto:siegel@gssm.k12.sc.us)), 401 Railroad Avenue, Hartsville, SC 29550.  
*Soccer, Cubic Functions and the Inflection Point.*

The number of high school soccer players in the U.S. was increasing at a decreasing rate in the 1980s. After 1988 the number began to increase at an increasing rate. A cubic function is an excellent model for these data thus using sports to demonstrate to students the utility of the cubic function. The concept of concavity is apparent to all students who view the graphical display of the data. The significant question is “What caused the inflection point?” The answer has nothing to do with soccer – not the World Cup or Pele or the Olympics. This data set and the reason for its shape allow students to see the relevance of the study of algebraic functions and calculus. (Received August 02, 2004)