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PA 19382. *Ancient Inca Mathematics*. Preliminary report.

The Inca Empire - the greatest pre-Columbian empire on the American continent - extended from Ecuador to central Chile for more than five thousand miles. Its capital Cuzco was established in the high Peruvian Andes.

This highly advanced civilization developed a decimal system used to run the empire - in particular, to build the 14,000 mile road structure and monumental architecture.

Some of the algorithms believed to be used by the Inca to do computations using a "yupana", an ancient calculating device, will be presented, as well as classroom activities for the course "Mathematics in Non-European Cultures" for non mathematics and science majors offered at Millersville University. (Received September 16, 2008)