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Keith M Jones* (keith.jones@oneonta.edu) and **Toke Lindegaard Knudsen**. *Engaging students with the Pell equation through inquiry with primary historical sources*. Preliminary report.

TRIUMPHS (Transforming Instruction in Undergraduate Mathematics via Primary Historical Sources) is an NSF-funded project to develop inquiry-based modules for student engagement in mathematical topics by working with and interpreting primary historical sources. As a part of this project, we have created a module, “The Pell Equation in India”, which guides students through source translations of two of medieval India’s most important mathematicians: Brahmagupta and Bhāskara II. This module begins with an exploration of some basic properties of the Pell equation, $Nx^2 + 1 = y^2$, moves through crucial tools developed by Brahmagupta for understanding this equation, and concludes with Bhāskara’s “Cyclic Method” for solving the Pell equation. The student discovery process is guided by tasks which ask students to explore calculations, engage with the primary source, and make, test, and prove conjectures. (Received September 12, 2017)