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Eric J. Landquist* (elandqui@kutztown.edu), Department of Mathematics, Kutztown University, Kutztown, PA 19530. *Operation Nonabelian Grape: Transforming Calculus I into a Top Secret Mission*. Preliminary report.

A highly classified prototype “fluxion coil” has been stolen from a government lab and is being taken around the globe to be auctioned on the black market by an underground syndicate called PseudoWho. It is the mission of teams of agents to follow clues encoded in the solutions of calculus problems to track down and recover the fluxion coil. Problem sequences lead teams to informants to help them in their mission. Can teams solve mathematical puzzles and crack codes to obtain bids from interested parties? Can they blast a road having continuous derivatives out of a mountain pass in order to infiltrate a PseudoWho compound? Can they minimize their escape time to flee from terrorists? In Operation Nonabelian Grape, Calculus I is transformed into a semester-long treasure hunt to make the often mundane task of mastering key concepts into an exciting challenge and help students have more persistence in the problem-solving process. Problems range in difficulty to challenge each student at their ability level. Other activities encourage students to participate in class, seek help when they need it, and expose themselves to mathematics outside the classroom. This talk will share my version of a treasure hunt that I use in my Calculus I classes, along with the responses of students. (Received September 08, 2014)