

1135-Q5-2236 **Sharon Lanaghan*** (slanaghan@csudh.edu). *Simon Says, Four Gallons.*

Given a 5 gallon jug and a 3 gallon jug, is it possible to measure out exactly 4 gallons? That's the problem faced by John McClane and Zeus Carver in *Die Hard 3* and studied by many Math Circles. In this session, participants will solve this problem and will explore multiple representations that will lead to a deeper understanding of its solution. Both geometric and algebraic approaches will be employed to answer questions such as: "What measurements can be made from different combination of jugs?", "How can geometry be used to model this problem?", "Is there a way to model this problem with equations?", "How are the algebraic and geometric approaches to this problem related?" There will also be a discussion of source material as well as observations from implementation of this session with teachers at the CSUDH Math Teachers' Circle. (Received September 25, 2017)