

KEYNOTE LECTURE

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Filling Jars to Measure Time



As a gentle introduction to Number Theory, the Queen of Mathematics, we offer the following campsite conundrum:

Two dissimilar jars have equal volume. Water is flowing at the same constant rate through each of the three hoses. Any one hose will fill any one jar in exactly one hour. Then:

- 1) How can you measure exactly 35 minutes?
- 2) What are the fillable fractions of a jar, and what are the measurable fractions of an hour?
- 3) What if more hoses/jars were available?



**This is joint work with Tiffany Le, Fishers High School, Indiana*