Math and Culture Day 1 Notes

Stefano Fochesatto

Brons Gerrish: Arabic Geometric Constructions (Parabola)

Interesting: I thought the 3d portion of the geogebra demo was interesting. Had seen the 2d construction before and it wasn't until Brons had shown that the intersecting plane is parallel to the side of the cone that I understood the construction.

Confusing: I was a little confused when Brons started saying that the construction wasn't really similar to the cone, maybe I need to see a more extreme example in 3d in order to understand.

Mac Sandstrom: Chinese Counting Rods

Interesting: The chinese method of multiplication is very similar to our multiplication algorithm. There's now zeroes but subbing them in the methods are pretty much the same.

Confusing: I've always thought it's confusing that the chinese essentially had gaussian elimination to solve systems but still didn't have a good grasp of indeterminate systems.

Brett Carelson: Oware and Other Mancala Games

Interesting: It's always very interesting when pi shows up unexpectedly in a solution.

Confusing: It's unfortunate that there wasn't enough time to go into the importance of 1/pi in these mancala type games. I think it's likely something from the unique partitions of an integer.

Larissa Strunk: Central Yup'ik Measurement

Interesting: I thought it was super interesting that a lot of the tools the Alaska native people built were built with the individual's measurements very custom.

Confusing: I think this presentation was pretty straightforward. I would be curious to see if the dimensions for qayaqs and fish traps gave bimodal data sets. The classic example of bimodal data is height because men and women have different mean heights. Since their tools were built custom for each individual I would suppose that the data for their dimensions would follow the same bimodal pattern.

James Kardash: Incan Knot Tying Systems

Interesting: I thought it was interesting that the Inca had separate systems for doing arithmetic and record keeping. The example on the first slide of a quipu was HUGE and that's very cool.

Confusing: To me it seems rather wasteful to use large quantities of rope whenever you want to document something, so I'd be curious to see if there were any alternatives.

Sarah Curtis: Chinese Mathematics and Fractions

Interesting: Thought it was interesting that the Chinese method for arithmetic with fractions is essentially the same as what we do today. Even more so that when I'm adding fractions in my head it feels even more similar since I don't imagine the notation I just think of the operations that need to be done.

Confusing: it was confusing that there weren't examples of addition where only one fraction is multiplied. Makes me think that they were just following a formula instead of understanding that to add fractions you need a common denominator.