

Math 181
Day 10 Notes

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Left Off with work of Nichomachus.

- Nichomachus claims mathematics came from Pythagoras which originated in Egypt. Born from religious ideas of everything as numbers.
- Nichomachus is presenting ideas from much later, ideas came from working with abbaci, and accounting work.

Earliest math that we can document comes from Hippocrates of Chios (470-421 BC)

Side note: different Hippocrates than the Hippocratic oath. Same name, different people.

Did some geometric work which we still have and can date, a lot of work after that.

Plato's Meno

It was a socratic dialogue from around 385 BC that discusses math. The main discussion is about where virtue comes from, in the form of a discussion between Socrates and the politician Meno.

- Socrates claims that we merely recall things that we already know
- Meno asks for a demonstration
- Socrates calls over one of Meno's slaves, and Socrates starts to teach the slave geometry.

He walks the slave boy through a geometric explanation of multiplication. The slave gets the correct answer first.

The slave gets the incorrect answer, and Socrates points out he was only asking questions and not actually teaching. They also dunk on the literal slave for not knowing mathematics.

Socrates continues walking through the problem with the slave. He leads the boy to the conclusion that the scaling factor must be between 2 and 4 feet. And prompts the slave to answer 3, which is also incorrect.

Socrates is such an asshole to the literal slave child with no education.

Socrates points out that his questioning has prompted the slave to seek knowledge.

Socrates then endeavors to show the correct answer was inside the Slave all along by asking leading questions.

Bruh, 90% is Socrates talking and the other 10% is other people saying "sure plato", "certainly". Nobody ever gets to be smart when Socrates is around.

- Meno goes full coward mode and gives in and licks Socrates boots

Generally considered to be a fictional account Plato was using to make points.

Mathematics of Hippocrates

A lot of focus on Squares and constructing Squares.

Start with inscribing a square in to a circle. A second circle is created which passes through two adjacent points on the square with a diameter equal to the side of the inscribed square.

The question was "What is the area of the second circle that is outside the first?". The question is also known as the Lune of Hippocrates.