

The concept of limits had a hard time to get established. Which Greek Philosophers were most prominently thinking about this problem.

Lecture 6: Quiz

Name:

- a) Zeno
- b) Aristotle
- c) Archimedes
- d) Pythagoras

Problem 1

Who invented integral and differential calculus as we know it today?

- a) Archimedes
- b) Bernoulli
- c) Galileo Galilei
- d) Leibniz and Newton around the same time

Problem 2

What is the sum of the first 1000 natural numbers 1-1000?

- a) 5050
- b) 500500
- c) 500501
- d) 5051

Problem 3

What is the next element in the following sequence

2, 3, 5, 9, 17, 33, 65, ...?

- a) 128
- b) 129
- c) 130
- d) 131

Problem 4

Problem 5

In which century was calculus developed?

- a) The 15'th century
- b) The 16'th century
- c) The 17'th century
- d) The 18'th century

Problem 6

Henri Poincaré mentions in his "New Methods of Celestial Mechanics" the two series

$$S_n = \sum_{n=0}^{\infty} \frac{1000^n}{n!}$$

and

$$T_n = \sum_{n=0}^{\infty} \frac{n!}{1000^n}.$$

Which one converges?

- a) S_n .
- b) T_n .

Problem 7

We know that $f(x) = x \log(x) - x$ satisfies $f'(x) = \log(x)$. What is an anti derivative of the function $\log(x)$?

- a) $\log(x)$
- b) $1/x$
- c) $x \log(x) - x$
- d) $x \log(x)$.