

Lecture 13: Quiz

Name:

Problem 1

The computer on the ground floor of the Harvard science center is called:

- a) Bomba
- b) Mark I
- c) Mark II
- d) Colossus

Problem 2

There is an ancient Greek analog computer believed to have been designed by Archimedes. It is called the

- a) Schickard machine
- b) Antikythera
- c) Astrolabe
- d) Abakus
- e) Schickard computer

Problem 3

What is experimental mathematics?

- a) Publish theorems which are likely to be true.
- b) Assist as a mathematician in an experimental lab.
- c) Search for relations and theorems using computers and calculations.
- d) 3D scan objects and model them mathematically.

Problem 4

Which first significant digit appears more often in Benford's law

- a) the digit 1 appears most often.
- b) the digit 5 appears most often.
- c) the digit 9 appears most often.
- d) all digits appear with the same frequency

Problem 5

One of the following problems is NP hard. Which one?

- a) Deciding whether n is prime
- b) Deciding whether two graphs are isomorphic.
- c) Computing the n 'th digit of Pi .
- d) Deciding whether a 3D object can be printed or not

Problem 6

When was Pascal's calculator built? a) 1542

- b) 1642
- c) 1742
- d) 1842

Problem 7

Which of the following is impossible:

- a) Building a universal Turing machine.
- b) Enumerate all Turing machines.
- c) Building a Turing machine which decides whether a machine halts or not.
- d) Using a Turing machine to factor integers.

Problem 8

What is Moore's law ?

- a) The singularity is near.
- b) Everything which can go wrong, will go wrong.
- c) The number of transistors on a microchip double every 2 years.
- d) We have to replace our computers every 2 years.

Problem 9

What was the law which dealt with the first digits in numbers?

- a) Bertrands law.
- b) Benfords law
- c) Turings law
- d) Babbage law

Problem 10

Who was the first programmer:

- a) Ada Lovelace
- b) Blaise Pascal
- c) Gottfried Leibniz
- d) Konrad Zuse