

Professor Christos Kapoutsis: Theory of Computation

1. What is a decision problem?

Decision problems are problems that have a binary answer: either true or false.

Source: [Introduction to Theory of Computation | by Jie Shen | Medium](#)

2. What does it mean for a decision problem to be decidable?

If a decision problem can be solved with an algorithm that provides an accurate problem, it is called decidable.

Source: [Decidable & Undecidable Problems – GeeksforGeeks](#)

3. What is the class P? What is the class NP?

Class P problems, also known as polynomial time, are decision problems that are solved in polynomial time by a deterministic machine. Class NP, also known as non-deterministic polynomial time, are decision problems that are solved in polynomial time by a non-deterministic machine

Source: [P, NP, CoNP, NP hard and NP complete | Complexity Classes – GeeksforGeeks](#)

4. What is the intuitive meaning of the “P versus NP” question?

‘P versus NP’ questions if a problem whose solution can be verified quickly and also be solved quickly. In other words, can the problem be solved as fast as it can be proved?

Source: [P versus NP problem – Wikipedia](#)

5. If you resolve the P versus NP question, how much richer will you be?

The Clay Mathematics Institute has set a prize of a million dollars for an accurate solution to the question. If I solve the P versus NP question, I would be a millionaire.

Source: [P versus NP problem – Wikipedia](#)