1. A problem is said to be easy if it is easy to solve and verify.
2. A problem is said to be hard when it can be verified but cannot be solved easily.

3) Problems that we know an efficient algorithm for that can produce a solution in polynomial time.

4) Problems that we do not know an efficient algorithm that can produce a solution in polynomial time.

5) What are some problems in the set P? Other than the problems mentioned in the video, what other problems have we seen this semester that fall into the set P?

6) Prime Factorization, Mario, and Jigsaw.

7) **NP-complete** is a special category of **NP problems**that have time complexities greater than polynomial time, are verifiable in polynomial time

8) Hamiltonian cycle, Vertex cover Problem, Clique problem, Travelling Salesman, Subset Problem.

9) “P vs NP” problem asks whether a problem whose solution can be quickly verified can also be solved quickly.

10) It helps to check whether a given formula is satisfiable. It helps to interpret NP problems.

11) EXPTIME is described as the set of all problems that have exponential run time.