Tractability

Polynomial time (p-time) = $O(n^k)$, where n is the input size and k is a constant

Problems solvable in p-time are considered **tractable**

NP-complete problems have no known p-time solution, considered **intractable**

Tractability

Difference between tractability and intractability can be slight

Can find shortest path in graph in $O(m + n\lg n)$ time, but finding longest simple path is NP-complete

Can find satisfiable assignment for 2-CNF formula in $O(n)$ time, but for 3-CNF is NP-complete:

$(x_1 \vee \neg x_2) \wedge (\neg x_1 \vee x_3) \wedge (\neg x_2 \vee \neg x_3)$