

Denote X the class of sets relative to which $P = NP$ relativized and Z the class of sets relative to which $P \neq NP$. Besides presenting known properties about X and Z , we also show that complete problems for exponential complexity classes and stronger ones belong to X . We show that some complete problems, if they ever exist, for deterministic classes between polynomial and exponential time do not belong to X . We show that hard problems for exponential classes do not generally belong to X . We characterize sets in X as the sets in the intersection of the first level of the extended low and the zeroth level of the extended high hierarchy. Further, we prove that neither X nor Z is closed under unions, intersections and symmetric differences. We also prove that Z is not closed under disjoint unions which implies that disjoint union can lower complexity measured in terms of extended lowness.