

# Computational Complexity - Scrimmage II

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## 1 Problems

1. Prove that an infinite set is decidable if and only if it can be enumerated in increasing order by a one-to-one computable function.
2. Prove :  $L_u \leq_m K$ .
3. Show that there must exist a program  $e$  such that  $W_e = \{e^2\}$ .
4. Given a collection  $C$  of c.e. sets. Is  $C$  regular?
5. Prove  $A \leq_m B \Rightarrow A \leq_T B$ .