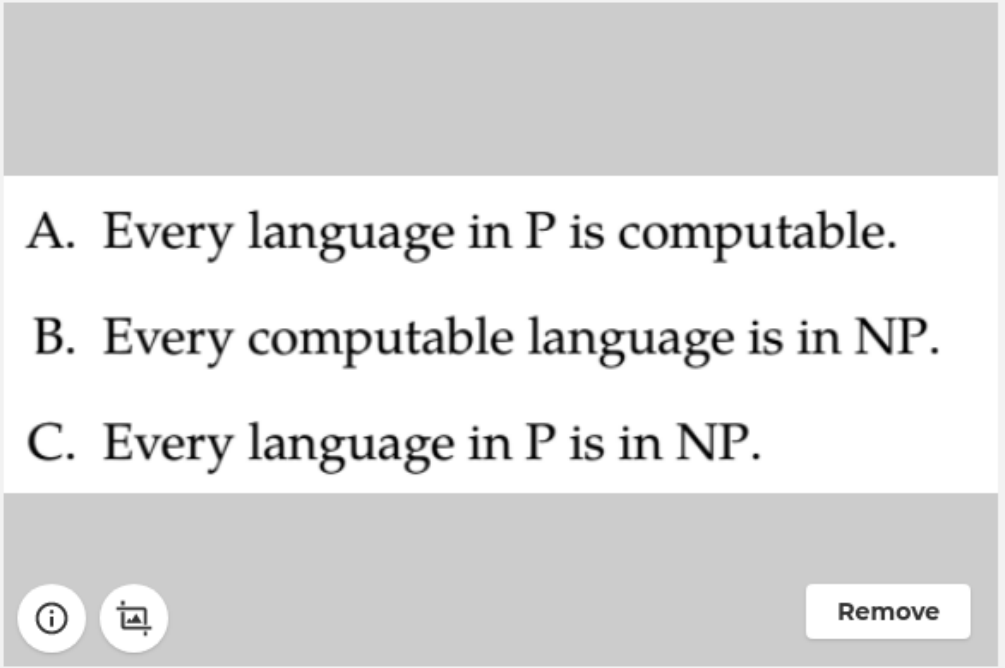
Out of the following statements, how many are true?



- ▲ 0
- ◆ 1
- ● 2 ✓
- ■ 3

Which of the following functions from N to N are not $O\left(n^k\right)$ for any natural number k?

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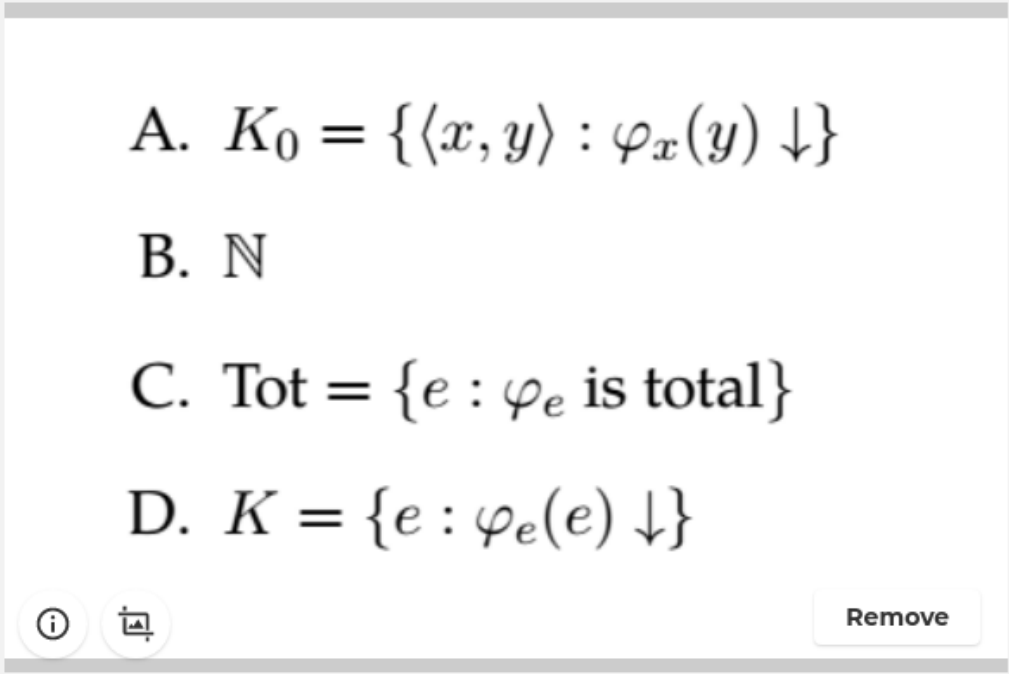
- ▲ $(\log n)^n$ ✓
- ◆ $n!$ ✓
- ● $\log\left(n^n\right)$
- ■ Add answer 4 (optional)

Which of the following sets is NOT in Σ_1 ?



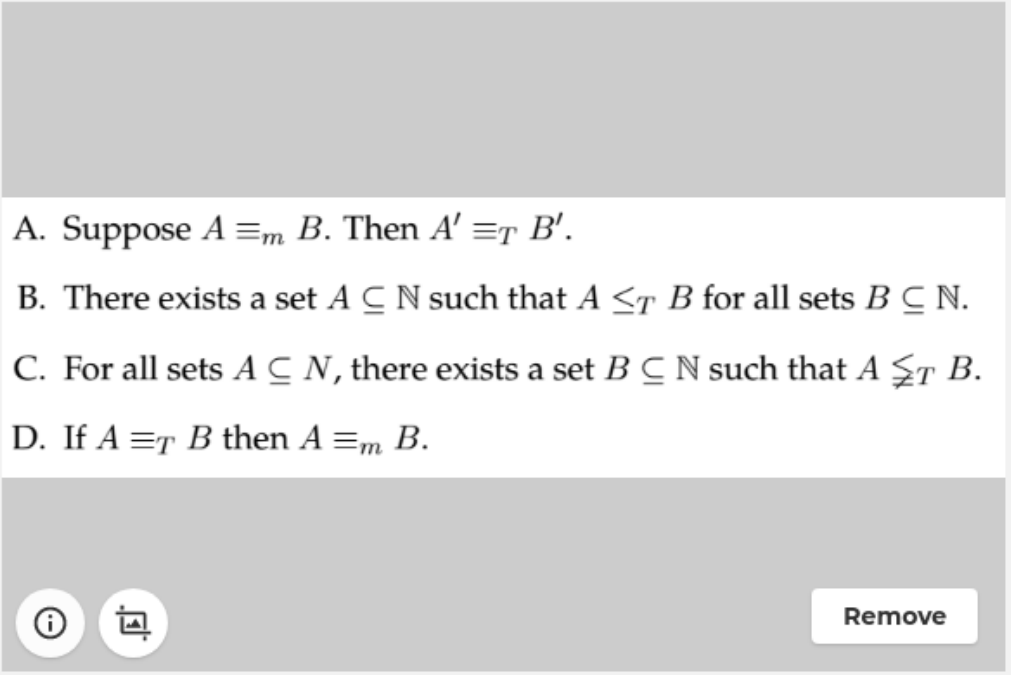
A

B

C

D

Which of the following statements is FALSE?



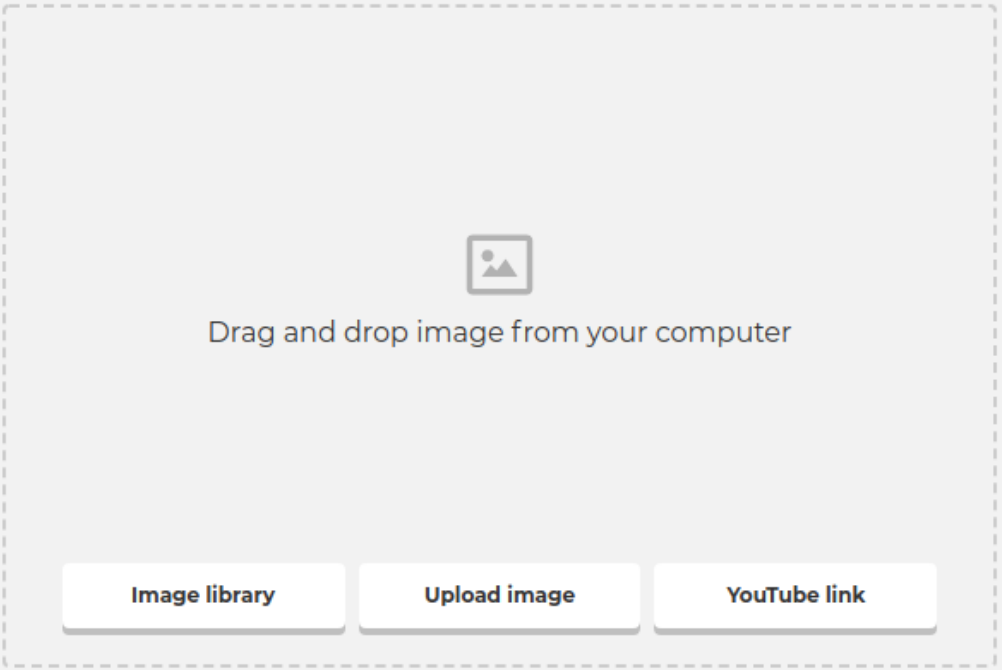
A

B

C

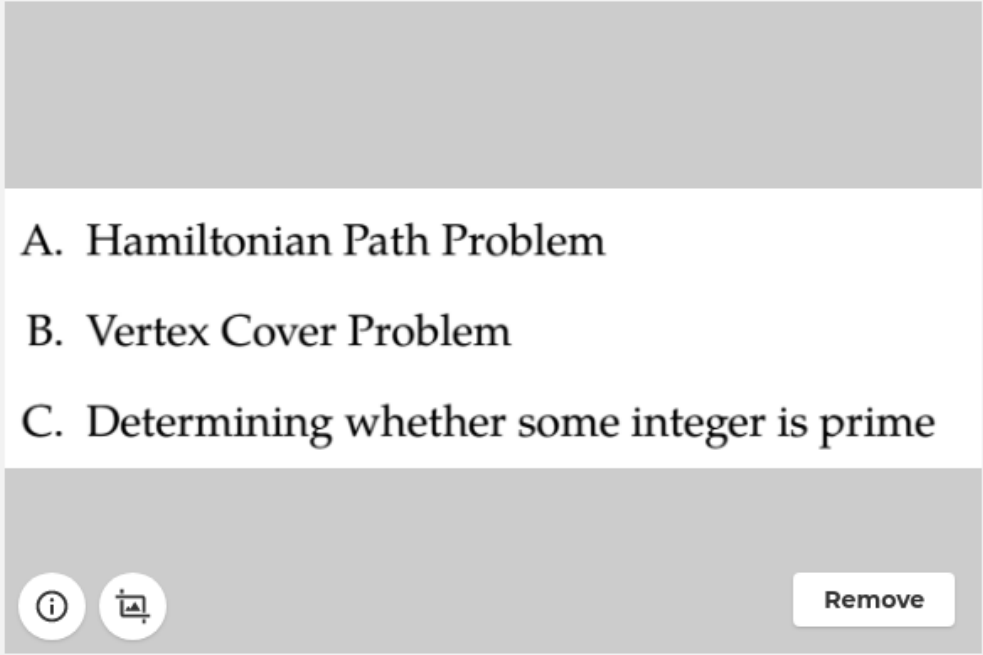
D

In the Cook-Levin Theorem, which problem is shown to be NP-complete?



- Hamiltonian Path Problem
- Vertex Cover Problem
- Sudoku Solving Problem
- Boolean Satisfiability Problem ✓

How many of the following problems are known to be in P?



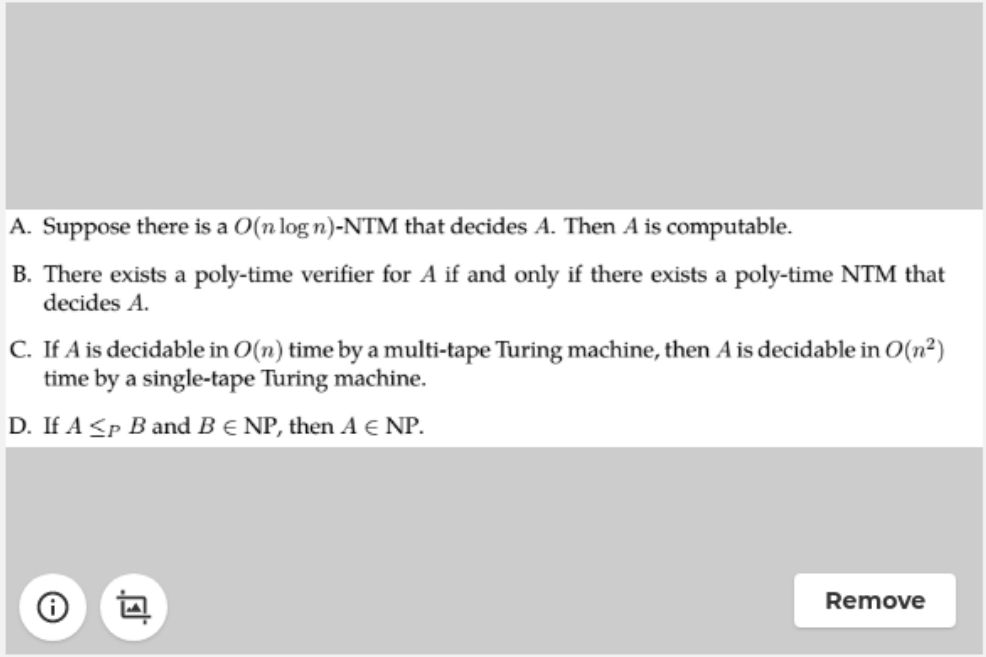
0

1

2

3

Which of the following statements are true?



A. Suppose there is a $O(n \log n)$-NTM that decides A. Then A is computable.

B. There exists a poly-time verifier for A if and only if there exists a poly-time NTM that decides A.

C. If A is decidable in $O(n)$ time by a multi-tape Turing machine, then A is decidable in $O(n^2)$ time by a single-tape Turing machine.

D. If $A \leq_P B$ and $B \in$ NP, then $A \in$ NP.

Remove

A

B

C

D

If P = NP, then which of the following statements are true?

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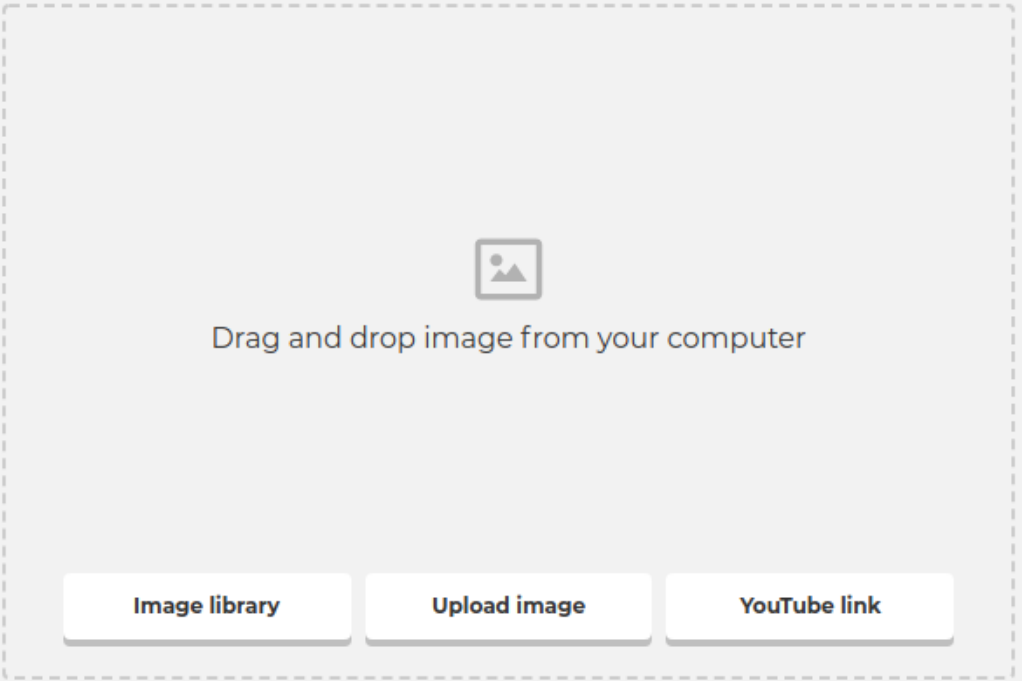
- ▲ All computable problems would be poly-time computable
- ◆ All poly-time verifiable problems would be poly-time computable ✓
- ● All problems are computable
- ■ There exists an algorithm that solves the Subset Sum Problem in poly-time ✓

What would you do if someone manages to prove P = NP?



- Withdraw all money from your bank account, and hide the cash under your bed
- Gain access to my computer to leak helo_fish_2.jpg
- Calm down, because it might be a non-constructive proof of P = NP
- Factor 192659099 in poly-time and flex your math skillz