# Question 1

* Since the function is constant time, namely , then it is in complexity class .
* As Definition 2 in Lecture 9(c) says, the notion of -hard for a complexity class has “built into” it, or makes sense only in the context of, a notion of a reduction, .
* In the context of the class , the notion of a reduction that is assumed when someone says -hard, is Definition 1, Lecture 9(c), which is represented as “.”

# Question 2

* Solve this problem by showing: (i) every problem reduces to this problem, and (ii) this problem is itself .

# Question 3

# Question 4

# Question 5