Student Number: ██████　　　　　　　　　　　　　　　　　　　　Name: Bryan Hoang

6. (10 points)

(a) **Answer:**

Proof. Suppose we have an algorithm that solves the Diffie-Hellman problem. Then the algorithm can use the given values of g, g^a, and g^b to compute g^{ab}. We can then compare the value of g^{ab} with the value of C to check if they are equal, thus solving the Diffie-Hellman decision problem.　　　　　　□

(b) **Answer:**

I think the Diffie-Hellman decision problem is hard because I can't foresee a way of solving it without first solving the Diffie-Hellman problem, which is a hard problem.