Quiz 6

Student ID Number: Name _____

Math 173A, 3PM

Please justify all your answers July 22, 2019

Please also write your full name on the back

1. Fill in the blank.

   (a) If every prime factor of n is less than B, then n is said to be B-_____.

   (b) True or false? If n is the product of two distinct odd primes, then there exists an integer $a \not\equiv \pm 1 \pmod{n}$ such that $a^2 \equiv 1 \pmod{n}$.

2. Suppose you discover that

$$880525^2 \equiv 2, \quad 2057202^2 \equiv 3, \quad 648581^2 \equiv 6, \quad 668676^2 \equiv 77 \pmod{2}288233.$$

   How would you use this information to factor 2288233? Explain what steps you would do, but do not perform the numerical calculations.