

Quiz 5

Student ID Number:

Name _____

Math 173B, 1PM

Please justify all your answers

February 27, 2020

Please also write your full name on the back

1. True or false?

- (a) The binomial coefficient $\binom{n}{k}$ counts the number of ways to choose k ordered items from a set of n items.
- (b) A set of size n has 2^n subsets.

2. How many symmetric matrices are there over \mathbb{F}_q ?

3. Your friend offers you a bet. You roll two six-sided dice. You win \$100 if their sum is five and lose \$12 otherwise. Do you take this bet? How much money do you expect to win or lose if you were to take this bet 25 times?