

Math175 - Discrete Mathematics - Spring 2005

Quiz #8, May 9, 2005

In the following problems you are required to show all your work and provide the necessary explanations everywhere to get full credit.

1. Let $A = \{1, 3, 5, 7, 9, \dots, 99\}$. Prove that if 26 integers are selected from A , then at least one pair of integers has a sum of 100.

2. Let n and k be positive integers and suppose $k \leq n$. Prove that $\binom{n}{k-1} + \binom{n}{k} = \binom{n+1}{k}$.