

Name _____

Mathematics 2602

Quiz 3

Prof. Margalit

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1. How many odd integers are there between 1000 and 8999 with no repeated digits?

The last digit of each odd integer between 1000 and 8999 with no repeated digits is 1, 3, 5, 7 or 9.

If the last digit is 9, then there are

$$8 \cdot (10-2) \cdot (10-3) = 8 \cdot 8 \cdot 7 = 448 \text{ such numbers.}$$

If the last digit is not 9, then there are

$$4 \cdot (8-1) \cdot (10-2) \cdot (10-3) = 4 \cdot 7 \cdot 8 \cdot 7 = 1568$$

such numbers.

So there are $448 + 1568 = 2016$ such numbers. *