

Math 2001: PHW6

Due: March 2, 2016

1. From the book do:
 - 3.2: 6
 - 3.3: 4, 10
 - 10: 2, 6
2. The genetic code can be viewed as a sequence of four letters T , A , G , and C .
 - (a) How many 6-letter sequences are there?
 - (b) How many 6-letter sequences are palindromic (the same when read in the reverse order)?
3. How many ways can 6 men and 6 women be seated at a table with 12 place settings such that gender alternates as one goes around the table?
4. Suppose one has ℓ tasks, and suppose for $1 \leq j \leq \ell$ task j has m_j different ways of being completed. Use induction to show that the total number of ways to complete a sequence these ℓ tasks is $m_1 m_2 \cdots m_\ell$.