

Problems for 11/30/07

- (1) Find the following:
 - (a) $p_d(8)$
 - (b) $p(8|\text{odd parts})$
 - (c) $p(8|\text{largest part } 4)$
- (2) For $1 \leq j \leq n$, prove that the number of partitions of n containing the part 1 at least j times is $p(n - j)$.
- (3) Let $F(n)$ denote the number of partitions of n with every part appearing at least twice. Let $G(n)$ be the number of partitions of n into parts larger than 1 such that no two parts are consecutive integers. Use conjugate partitions to prove that $F(n) = G(n)$.