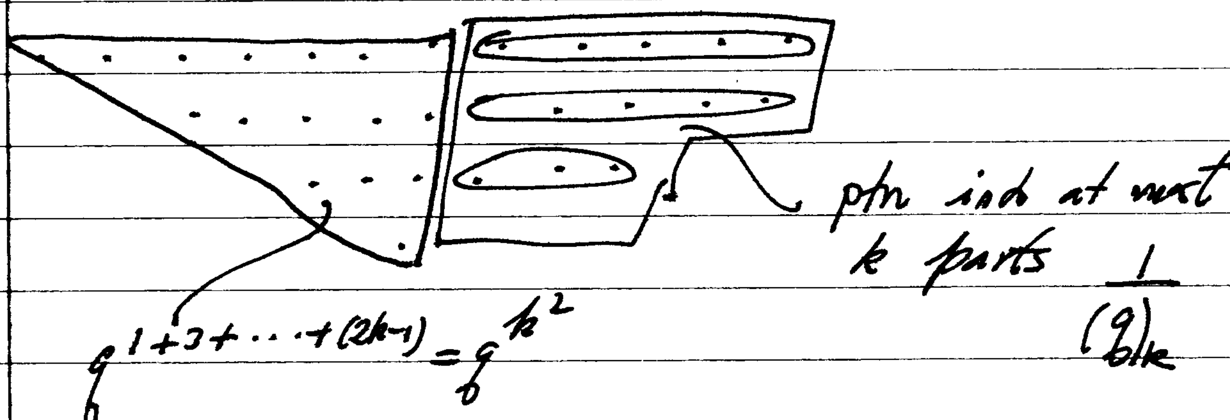
We obtain

$$\alpha_k = (\pi_k - 1),\ \alpha_{k-1} = (\pi_{k-1} - 3), \ldots, \alpha_{k-l} = \pi_{k-l} - (2l+1)$$

$$, \ldots, \alpha_1 = (\pi_1 - (2k-1)), \text{ and}$$

$$\alpha_k \geq \alpha_{k-1} \geq \cdots \geq \alpha_2 \geq \alpha_1 = 0.$$



Let $p_k(R, n)$ = # of partitions of n into k parts in which difference between parts ≥ 2.

Let $p(R, n)$ = # of partitions of n in which diff between parts ≥ 2.

Then $$\sum_{n \geq 0} p_k(R, n) q^n = \frac{q^{k^2}}{(q)_k}$$

$$\sum_{n \geq 0} p(R, n) q^n = \sum_k \left(\sum_{n \geq 0} p_k(R, n) q^n \right) = \sum_{k=0}^{\infty} \frac{q^{k^2}}{(q)_k}$$

<u>EX</u>: $\sum_{n=0}^{\infty} \frac{q^{n^2+n}}{(q)_n}$ is G.F. for partitions into parts ≥ 2 in which diff. between parts ≥ 2.

<u>Cor</u>

(1) The number of ptns of n in which diff. between parts ≥ 2 = The number of ptns of n into parts $\equiv 1, 4 \pmod 5$.

(2) The number of ptns of n in which diff. between parts ≥ 2 & no ones = The number of ptns of n into parts $\equiv 2, 3 \pmod 5$.