(3) $$p(n) = \sum_m N_V(m,n).$$ (35)

__Proof__ (1) Let $F(z) = \dfrac{(q)_\infty}{(zq)_\infty(z^{-1}q)_\infty}$.

Then $F(\frac{1}{z}) = F(z)$ so

$$\sum_n \sum_m N_V(m,n) z^{-m} q^n = \sum_n \sum_m N_V(m,n) z^m q^n$$

$$\sum_n \sum_m N_V(-m,n) z^m q^n = \sum_n \sum_m N_V(m,n) z^m q^n,$$

and

$$N_V(-m,n) = N_V(m,n) \quad \text{for all } m,n. \blacksquare$$

(2) as before. (3) follows by letting $z=1$. $\square$

__Theorem__ (G, 1986)

(1) $N_V(k,5,5n+4) = \dfrac{p(5n+4)}{5}$, $0 \le k \le 4$,

(2) $N_V(k,7,7n+5) = \dfrac{p(7n+5)}{7}$, $0 \le k \le 6$,

(3) $N_V(k,11,11n+6) = \dfrac{p(11n+6)}{11}$, $0 \le k \le 10$.

See next page for an example of (1).