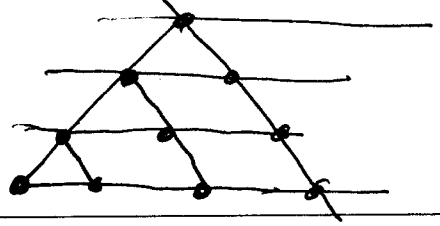
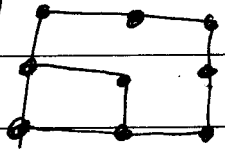
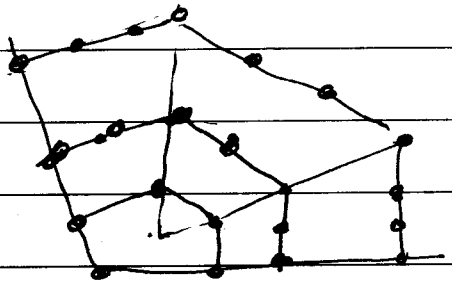


△ numbers $= m(m+1)/2$

1, 3, 6, 10



□ $= m^2$

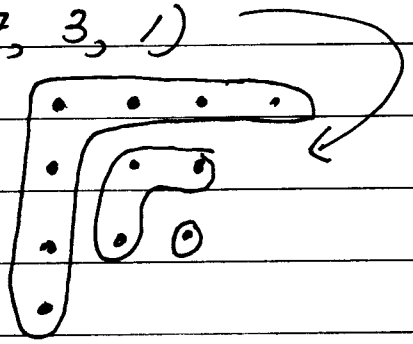


1, 4, 9, 16, ... $1 + 4 + 7 + \ldots + 3m-2$

$= \frac{3}{2}m^2 - \frac{m}{2}$ Pentag Numbs.

Example

(7, 3, 1)



Euler (1750) | Legendre (1830) | Jacobi (1846) | Franklin (1881)

Theorem Let

$p_e(D, n)$ = # of partitions of n into an even number of distinct parts

$p_o(D, n)$ = # of partitions of n into an odd number of distinct parts

Then

$$p_e(D,n) - p_o(D,n) = \begin{cases} (-1)^m & \text{if } n = \frac{m(3m\pm1)}{2} \\ 0 & \text{otherwise} \end{cases}$$

m	$\frac{m(3m-1)}{2}$	$\frac{m(3m+1)}{2}$
0	0	0
1	1	2
2	5	7
3	12	15
4	22	26