Square Number Theorem

n=ab, a, b in N with 0

4ab = (a+b)^2 -(a-b)^2

<=>

(a+b)^2 = (a-b)^2+4ab

=> Every 4n number is the difference of two perfect square numbers

=> Every odd number is the difference of two perfect square numbers

=> Every number is the difference of two squares

=> Every number is the sum of two perfect square numbers , 0=0^2 , n^2=n^2+0^2

=>Every perfect square number is the sum of two square numbers >0 if and only if a*b is a square number

Remember a square divided by 4 is a square and a square factored by 4 is still a square

q.e.d.

Maik Becker-Sievert