Because there can be no perfect odd numbers.

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abstract

A perfect number is a natural number which is equal to the sum of its integer divisors including 1 and excluding itself, but a number n is also perfect in which the sum of its divisors including 1 and itself is equal to 2n. The natural numbers are infinite, for each of them there is a successor number and if it will never be possible to know how many, among the natural numbers, there can be perfect numbers, it is possible to know why there are even perfect numbers and there cannot be odd perfect numbers .

The perfect number equal to 2n recalls a measurement technique, used 35,000 years ago when numbers were not known and which is similar to today's one-to-one correspondence. The correspondence of years ago consisted in associating each element of a set A with an element of set B; a concrete correspondence today is: "in a shirt the A.soles can be associated with the B.brass". Years ago, not knowing how to count, any set A was made to correspond to a set B in order to obtain that any difference between the two sets was the confirmation or not that the two sets were equal.

1. **The first historical evidence of the use of correspondence dates back, as already mentioned, to more than 35,000 years ago when man, not knowing numbers, represented a whole, for example a flock, with the aid of concrete objects or references, such as e.g. pebbles. Without knowing the abstract concept of number, adding or removing a pebble for each sheep that went to pasture, it was possible to understand if, for example, all the sheep of the flock returned to the fold.**

1.1 **The pebbles, (set A) which was equal to the number of sheep (set B), can determine the sum of the divisors of a number which A=B can be put into correspondence. The pebbles, which confirmed the quantity of sheep returning to the fold, can be used to confirm whether the quantity of divisors of a number (set A) is or is not equal to a number (set B). I apologize to mathematics and to mathematicians, if I refer to sheep and pebbles to verify if the sum of the divisors of a number including 1 and excluding itself is equal to a number but what was valid many years ago is still valid today ; if the sum of 2 sets A + B (A divisors + B number) = 2n, the number is one of the infinite even perfect numbers because 2n = 2A which is twice as many pebbles and divided by 2 is equal to the number B. The numbers natural are infinite and there is no nth or the greatest number of all but just as, 35,000 years, a flock could be managed without counting the pebbles, in the same way perfect numbers can be managed without adding the divisors. The numbers 2n are the sum of set A and set B and, as years ago, the correspondence between set A and set B was used, today to verify if 2n=A+B=2A, the set A*(2-1) is equal to set B. The divisors of a number form the set A and when there is no difference between the sum of the divisors and the number, the set B, the even number is Perfect**

2. **The fundamental theorem of arithmetic proves that natural numbers greater than 1 are prime numbers or composite numbers and perfect numbers are composite numbers. The even numbers are all multiples of 2 and the even perfect numbers, as defined by Euclid and proved by Euler, are the product of one of the infinite prime numbers $\geq 3 * 2^{n \geq 1}$; the perfect odd numbers are all multiples of infinite prime numbers except 2 and an odd perfect number must be equal to the sum of its divisors. With the correspondence it is possible to transform every divisor of an odd number including 1 and excluding itself, into an equal quantity of pebbles but we will obtain that the set A (the sum of the pebbles) is always ≠ and less than the set B (the number); the sum of the divisors of an odd number is always ≠ da 2n which is**

twice the odd number B. The set A, the sum of the divisors of any odd number is always ≠ e less than the set B because each pebble represents n times a prime number ≥ 3 and the set A (the sum of pebbles) to be equal to the set B must be *(prime ≥ 3 -1) .

3. **To verify if an even number is a perfect number we cannot process all even numbers because we do not know their value and their factors but, only when an even number (set B), one of the infinite prime numbers $\geq 3^1 * 2^{n \geq 1}$, is equal to the sum of its divisors (together A), it can be affirmed that the number is perfect and it can be verified by placing the two together A = B in correspondence. The sum of the two together A+B = 2 *A and also, A+B = 2*B, the set A = B*(2-1) and the set B =A*(2-1); whatever the even number, when there is no difference between (the even number) B and (the sum of the divisors) A, the number is perfect.**

4. **To verify if an odd number is a perfect number we cannot elaborate all the odd numbers because we do not know their value and their factors; only when an odd number (set B), one of the infinite number of primes $\geq 3^1$ * different and greater primes $^{n \geq 1}$, is equal to the sum of its divisors (set A), it can be said that the odd number is perfect . The two sets A and B can never be equal because each divisor, each pebble of the set A is the result of B/prime number $\geq 3^1$, because the set A can be equal to B, the divisors and their sum, the set A, must be multiplied by the prime number $\geq 3^1$; whatever the odd number, since between (the odd number) B and (the sum of the divisors) A, there is always a difference, the odd number can never be a perfect number.**

mutatis mutandis:

https://mathshistory.st-andrews.ac.uk/HistTopics/Perfect_numbers/
https://vixra.org/abs/2212.0170
https://vixra.org/abs/2302.0054
https://vixra.org/abs/2303.0029
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